



State and Federal Contractors
Water Agency

CONTRACT DOCUMENTS

For

**TULE RED TIDAL RESTORATION PROJECT
HABITAT RESTORATION AND EARTHWORK PHASE 1**

Volume 1 of 3

For Re-Bid

Solano County, California

July 11, 2016

Prepared by:

Westervelt Ecological Services, Inc.
600 North Market Blvd., Suite 3
Sacramento, CA 95834
Tel. (916) 646-3644

Northwest Hydraulic Consultants, Inc.
2600 Capitol Ave. Suite 140
Sacramento, CA 95816
Tel. (916) 371-7400

Kjeldsen, Sinnock & Neudeck, Inc.
13550 Halyard Drive, Suite 100
West Sacramento, CA 95691
Tel. (916) 403-5900

THIS PAGE INTENTIONALLY LEFT BLANK

**STATE AND FEDERAL
CONTRACTORS WATER AGENCY**

CONTRACT DOCUMENTS

For

**TULE RED TIDAL RESTORATION PROJECT
HABITAT RESTORATION AND EARTHWORK PHASE 1**

TABLE OF CONTENTS

FRONT DOCUMENTS

Volume 1

Document			
			BID INFORMATION
	00020	—	Notice Inviting Bids
	00025	—	Signatures and Stamps
	00100	—	Instructions to Bidders
	00120	—	Supplementary Instructions to Bidders
	00125	—	Small/Disabled Veteran Business Enterprise Program
	00200	—	Information Available to Bidders
			BID FORMS
	00305	—	Bid Proposal
	00310	—	Bidding Sheet (s)
	00410	—	Bidder's Bond
	00420	—	Bidder's General Information
	00425	—	Bidder's Plan for Construction
	00430	—	Subcontractor List
	00433	—	Small/Disabled Veteran Business Enterprise List
	00480	—	Declaration of Noncollusion
			CONTRACT ADMINISTRATION FORMS
	00505	—	Agreement
	00520	—	Escrow Agreement for Security Deposits in Lieu of Retention
	00610	—	Bond for Faithful Performance
	00620	—	Payment Bond
	00660	—	Workers' Compensation Insurance Certification
			CONDITIONS OF THE CONTRACT
	00700	—	General Conditions
	00800	—	Supplementary General Conditions

GENERAL CONDITIONS

Table of Sections

1. Definitions
2. Contract Documents Complementary
3. Time and Order of Work
4. Assignment Forbidden
5. Subcontracts
6. Notice to Discontinue Work under Contract
7. Legal Address of Contractor
8. Additional Surety
9. Authority of the Engineer
10. Changes
11. Extra Work
12. Audit and Access to Records
13. Temporary Suspension of Work—Time of Completion
14. Termination of Contract for Convenience
15. Right-of-Way
16. Obligations of Contractor
17. Personal Attention
18. Protest and Claims Procedure
19. Contractor's Responsibilities for Losses or Liabilities
20. Contractor to Furnish Information
21. (Not used)
22. Specifications and Drawings
23. Materials, Workmanship, and Tests
24. Inspection
25. Examination of Work
26. Defective Work or Material
27. Right of Property in Materials
28. Title to Materials Found on the Work
29. Access to Work
30. Liquidated Damages
31. Patents and Copyrights
32. No Payment for Temporary Works
33. Partial Estimates
34. Partial Estimates May Be Withheld
35. Partial Payments
36. Final Payment
37. False or Erroneous Certificates
38. Acceptance of Work Not a Waiver
39. Final Payment Terminates Liability
40. Payment Only in Accordance with Contract
41. Moneys May Be Retained
42. Unpaid Claims
43. Payment of Wages
44. Eight-hour Law
45. Overtime — No Extra Compensation
46. Prevailing Rates of Wages
47. Interference with Fire Hydrants and Highways
48. Other Rights-of-Way and Structures
49. Trespass
50. Character of Workers
51. Employment of Labor
52. Substance Abuse Policy
53. Safety and Protection
54. Laws and Regulations
55. Employment of Indentured Apprentices
56. Substitution of Securities for Withheld Funds
57. Attorney's Fees Not Awarded
58. Suspension, Termination, or Changes in Work in the Event of Litigation
59. Assignment of Causes of Action
60. Differing or Unusual Site Conditions
61. Hazardous Substance, Hazardous Waste, or Asbestos-Related Work
62. Hazardous Material
63. Hazardous Waste
64. Insurance
65. Payrolls and Records
66. Non-Use of Intellectual Property of Third Parties

PROJECT SPECIFICATIONS

Table of Sections

DIVISION 1 - GENERAL REQUIREMENTS

Section	01010	—	Summary of Work
	01011	—	Specifications, Contract Drawings and As-Built Drawings
	01025	—	Measurement and Payment
	01040	—	Project Coordination
	01050	—	Construction Surveying
	01060	—	Safety and Regulatory Requirements
	01065	—	Environmental Requirements
	01070	—	Storm Water Pollution Prevention Plan (SWPPP)
	01090	—	Reference Standards and Drawings
	01200	—	Project Meetings
	01300	—	Submittals
	01312	—	Construction Schedules
	01400	—	Inspection of the Work
	01410	—	Testing Services
	01500	—	Construction Facilities and Temporary Controls
	01505	—	Mobilization
	01510	—	Temporary Utilities and Services
	01540	—	Load Restrictions
	01550	—	Access, Parking, and Traffic
	01572	—	Construction and Demolition Waste Management
	01610	—	Delivery Storage and Handling
	01740	—	Guarantee and Warranty

DIVISION 2 - SITE WORK

Section	02010	—	Demolition
	02110	—	Clearing Grubbing and Stripping
	02140	—	Control of Water
	02200	—	Earthwork
	02617	—	Dual Wall Corrugated HDPE Pipe
	02950	—	Planting
	02952	—	Erosion Control Post Construction BMPs

DIVISION 3 – CONCRETE (NOT USED)

	03100	—	Concrete Formwork
--	-------	---	-------------------

DIVISION 4 – MASONRY (NOT USED)

	04230	—	Reinforced Hollow Concrete Masonry
--	-------	---	------------------------------------

	05120	—	Structural Steel
--	-------	---	------------------

DIVISION 6 - WOOD AND PLASTICS

Section	06100	—	Rough Carpentry
----------------	-------	---	-----------------

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (NOT USED)**DIVISION 8 – DOORS AND WINDOWS (NOT USED)**

DIVISION 9 – FINISHES (NOT USED)

DIVISION 10 – SPECIALITIES (NOT USED)

DIVISION 11 - EQUIPMENT (NOT USED)

DIVISION 12- FURNISHINGS (NOT USED)

**DIVISION 13 - SPECIAL CONSTRUCTION
(NOT USED)**

Volume 2

DRAWINGS

Volume 3 (On CD)

ATTACHMENTS

Geotechnical Investigation, Tule Red, Solano County,
December 22, 2015 by Hultgren – Tillis Engineers
CEQA Addendum, Tule Red Restoration Project, February
2016, by ICF International and Westervelt Ecological Services
Suisun Marsh Habitat Management, Preservation and
Restoration Plan Final EIS/EIR, Chapter 5 and Appendices B,
C, and D, November 2011, by ICF International
Tule Red Restoration Project Mitigation Monitoring and
Reporting Program, March 11, 2016
Levee Crossing Geotechnical Recommendation Letter, Solano
County, February 29, 2016
Tule Red CDFW Temporary Access Permit

STATE AND FEDERAL CONTRACTORS WATER AGENCY

DOCUMENT 00020 NOTICE INVITING RE-BID

TULE RED TIDAL RESTORATION PROJECT PHASE I

N-1 The State & Federal Contractors Water Agency (SFCWA) hereby invites sealed bids from pre-qualified prime contractors for the Tule Red Tidal Restoration Project located in Solano County. Any bid submitted by a contractor not pre-qualified for this project will be returned to the contractor unopened. According to the SFCWA Board of Directors determination made on February 18, 2016, sealed bids will be received only from the following pre-qualified general contractors:

- Anderson Dragline, LLC
- Chris Galloway Construction
- Four M Contracting, Inc.
- Galindo Construction Company, Inc.
- Hanford Applied Restoration and Conservation
- Magnus Pacific, LLC (Great Lakes Environmental & Infrastructure Solutions)
- Marathon Construction Corporation
- The Dutra Group

N-2 Complete sets of the contract documents are available for review or purchase at 1121 L Street, Suite 806, Sacramento, CA, (telephone: 1-916-476-5056). The non-refundable cost to purchase is \$30 per paper set (includes a free CD of the documents) or \$20 to purchase a CD only. There is no additional charge for delivery by priority U.S. mail; delivery by other means shall be paid for by the requestor. Prospective bidders may obtain bidding documents and addendum from the KSN file share website located at <https://ksninc.sharefile.com/d-s1b9fd019be04024a>.

N-3 The Tule Red Tidal Restoration Project is located in Solano County's Grizzly Bay Region of the Suisun Marsh. The project incorporates approximately 304,450 cubic yards of excavated soil, of which approximately 249,100 cubic yards will be used to construct habitat berms and marsh ridge berms surrounding a constructed marsh pond area. The remaining excavated material will be cast across the site. The project will be constructed in two phases with Phase 1 incorporating the excavation of the fourth-order channels and ponds and the subsequent construction of the habitat berms and marsh berms using the excavated material. The final 300-foot section of the fourth-order channel connecting the project to Grizzly Bay will remain in place until Phase 2. Material excavated from the lower-order channels will also be used to construct the habitat and marsh ridge berms. The tidal gates will remain in place until Phase 2 to assist with dewatering during Phase 1 construction activities. Phase 2 will also include the removal of the existing clubhouse in the southeast corner of the project limits. Phase 2 work is not part of this bid.

N-4 Estimated cost of contract. SFCWA expects the total cost of construction to range between « \$3,750,000» and « \$4,750,000». This estimate is intended to serve merely as a guideline of the magnitude of work. Neither the bidders nor the contractor shall be entitled to claims because of any inaccuracy in the estimated cost range.

N-5 Questions regarding this project or requests for additional site visits shall be directed to Mark Young, Westervelt Ecological Services, (916) 646-3644 or via e-mail: myoung@westervelt.com.

N-6 Bids shall be submitted to SFCWA in accordance with the requirements of Document 00100, "Instructions to Bidders," on or before Wednesday, July 27, 2016 at 3:00 p.m., Suite #806, where each sealed bid will be date-stamped. After the specified time, sealed bids received by the submittal time will be transferred to the 10th floor, Suite #1050, where they will be publicly opened and read. Bids received by SFCWA after the time specified will be returned unopened pursuant to California Government Code § 53068. Bids received by a contractor not pre-qualified for this project will also be returned unopened.

N-7 Each bid shall be accompanied by cash, a certified or cashier's check or a surety bond as a guarantee that the bidder will execute the proposed contract if awarded. The successful bidder shall furnish a performance bond and a labor and material payment bond, in accordance with the contract documents.

N-8 The bidder shall have a California contractor's license, classification "General Engineering Contractor" at the time of submitting the bid.

N-9 For this project, SFCWA requires small and/or disabled veteran business participation of five percent (5%) of the total bid.

N-10 The successful bidder and its agents, employees, and subcontractors shall comply with provisions of the California Labor Code, including those relating to payment of prevailing rates of wages.

N-11 The successful bidder will be permitted to substitute securities for money that would otherwise be withheld by SFCWA as provided in California Public Contract Code § 22300.

STATE AND FEDERAL
CONTRACTORS WATER AGENCY

July 11, 2016

END OF DOCUMENT

**DOCUMENT 00025
SIGNATURES AND STAMPS**

**STATE AND FEDERAL
CONTRACTORS WATER AGENCY**

The text portions of these Contract Documents were prepared under the direction of the following licensed professionals:

As to Documents T1, G1 through G4, C1 through C13, S1, D1 through D3, EC-1 through EC-3 (Project Drawings) and Specifications Sections 01090, 01312, 01500, 01510, 01540, 02010, 02140, 02200, 02617, and 06100. (NHC)

As to Specifications Sections 01010, 01011, 01050, 01060, 01065, 01070, 01550, 01572, 02110, 02950, and 02952-1600. (WES)

Date:

Date:

As to Specifications Sections 00020, 00025, 00100, 00120, 00125, 00200, 00305, 00310, 00410, 00420, 00425, 00430, 00433, 00480, 00505, 00520, 00610, 00620, 00660, 00700, 00800, 01025, 01040, 01200, 01300, 01400, 01410, 01505, 01610, and 01740. (KSN)

Date:

THIS PAGE INTENTIONALLY LEFT BLANK

DOCUMENT 00100 INSTRUCTIONS TO BIDDERS

1. Form of Bid — The bid shall be made on the following bid forms provided by SFCWA:

Document Number	Document Title
00305	Bid Proposal and Acknowledgment of Bid Proposal
00310	Bidding Sheet(s)
00410	Bidder's Bond and Acknowledgments of Bidder's Bond and of Attorney in Fact (Not necessary if cash or certified or cashier's check accompanies bid)
00420	Bidder's General Information
00425	Bidder's Plan for Construction
00430	Subcontractor List
00433	Small/Disabled Veteran Business Enterprise List (required of lowest bidder 3 business days after bid opening)
N/A	Certification Document (required of lowest bidder, for each SBE/DVBE utilized, 3 business days after bid opening)
00480	Declaration of Noncollusion

These documents constitute the bid. Bids shall be prepared from bid documents released through SFCWA, and any reliance by bidders on documents obtained through other sources is not authorized and is at the bidders' risk. Bids must be received by SFCWA on or before the date and time specified in the Notice Inviting Bids. The bid shall be enclosed in a sealed envelope addressed to The State and Federal Contractors Water Agency, and delivered or mailed to 1121 L Street, Suite 806, Sacramento, CA 95814, Attention: Byron Buck. The envelope shall be plainly marked in the upper left-hand corner with the name and address of the bidder and bear the words "Bid for," followed by the number and title of the specifications for the work, and the date and hour of opening bids. The bidder's security, in accordance with Paragraph 6, shall be enclosed in the same envelope with the bid. Attachment B of Document 0800 is to be completed if the Bidder has, within the last three (3) years had any business activities or other operations outside of the United States.

2. Preparation of the Bid — The Bidder shall make its own interpretation of contract documents, data disclosed by borings or other preliminary investigations, and information received from the Engineer or his assistants. The bidder shall notify the Engineer of conflicts, errors, or discrepancies noted in the contract documents. The quantities of work or material stated in the unit-price items of Document 00310, "Bidding Sheet(s)" are given only as a basis of the comparison of bids, and SFCWA does not expressly or impliedly agree that the actual amount of work or material will correspond therewith. Final Pay items indicated in Document 00310 "Bidding Sheet(s)" shall be final pay quantities unless the dimensions of any portion of that item are revised. Each Contractor shall submit only one bid.

The prices quoted by the bidder shall include all applicable taxes and duties. All applicable taxes and duties shall be paid by the Contractor including any new taxes or tax increases imposed by the federal, state or local government during the course of the Contract. In accordance with 26 U.S.C. § 4221, prices quoted by the bidder shall be exclusive of federal excise taxes pursuant to the exemption of political subdivisions of a state under federal law.

A bid may be rejected if conditional or incomplete, or if it contains alterations of form, additions not called for, or other irregularities. A bid will be rejected if such defect or irregularity results in a material change to the bid. The same person(s) shall sign all bid forms that require a signature. Bids received by a contractor not pre-qualified for this project will also be returned unopened. Bids shall be valid for a period of 90 days after date of bid opening.

3. Site Investigation and Conditions Affecting the Work — The Bidder acknowledges that it has ascertained the nature and location of the work, and that it has investigated and assured itself as to the general and local conditions that can affect the work or its cost. The bidder also acknowledges that it is satisfied as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered so far as this information can be reasonably ascertained from an inspection of the site, including exploratory work done by SFCWA, as well as from the drawings and specifications and, if included in the Bid Information documents, from Document 00200, "Information Available to Bidders." Failure of the bidder to take these actions will not relieve it from responsibility for estimating properly the difficulty and cost of successfully completing the work, or for proceeding to successfully complete the work without additional cost to SFCWA.

SFCWA assumes no responsibility for conclusions or interpretations made by the bidder based on the information that SFCWA makes available. SFCWA assumes no responsibility for any understanding reached or representation made concerning conditions that can affect the work by any of its employees or agents before execution of the Contract, unless that understanding or representation is expressly stated in the drawings and specifications.

4. Bid Proposal and Signature — If the bid is made by an individual, the bidder shall sign Document 00305 “Bid Proposal.” If the bid is made by a partnership, the Bid Proposal shall be signed by a partner, who shall give its name and the name of all other partners. If the bid is made by a corporation, it shall be executed in accordance with the instructions on the Bid Proposal.

If the bid is made by a joint venture, the Bid Proposal shall be executed by a person duly authorized to bind each joint venture participant. For each joint venture participant, the bidder shall provide with the bid documentary evidence (such as a power of attorney or a resolution by a governing body) satisfactory to SFCWA that demonstrates the authority of the person executing the Bid Proposal on behalf of the joint venture participant. Also, the bidder shall provide with the bid the agreement establishing the joint venture. At least one joint venture participant shall be a pre-qualified contractor approved for this project.

Any bid submitted by a contractor not pre-qualified for this project will be returned to the contractor unopened. According to the SFCWA Board of Directors determination made on February 18, 2016, sealed bids will be received only from the following pre-qualified general contractors:

- Anderson Dragline, LLC
- Chris Galloway Construction
- Four M Contracting, Inc.
- Galindo Construction Company, Inc.
- Hanford Applied Restoration and Conservation
- Magnus Pacific, LLC
- Marathon Construction Corporation
- The Dutra Group

5. Subcontractors — Pursuant to §§ 4100-4114 of the California Public Contract Code and Document 00700, “General Conditions,” the bidder shall complete Document 00430, “Subcontractor List.” SFCWA may disqualify any bidder that fails to comply with this requirement.

6. Bidder's Security — The bidder shall submit with the bid (a) cash, (b) a certified or cashier's check issued by a responsible bank and payable to State and Federal Contractors Water Agency, or (c) a bidder's bond using Document 00410, “Bidder's Bond,” issued by a corporate surety authorized to issue surety bonds in the State of California, in an amount not less than 10 percent of the aggregate amount of the bid. Individual sureties will not be accepted.

If a bidder to whom an award is made fails or refuses to execute the Contract in accordance with Paragraph 15 or furnish the required bonds, evidence of workers' compensation insurance, and certificate of insurance in accordance with Paragraph 14, then the cash deposit, certified or cashier's check, or bidder's bond accompanying the bid shall be forfeited, cashed, or enforced as appropriate. The money available there from shall become the property of SFCWA as liquidated damages for such failure or refusal. If the successful bidder complies with the foregoing requirements in a timely manner, its cash deposit, certified or cashier's check, if furnished, shall be returned to it within 5 days of Contract execution, or the bid bond, if furnished, shall become void. The security submitted by unsuccessful bidders will be returned within 15 days of SFCWA's execution of Document 00505, “Agreement.”

7. Small/Disabled Veteran Business Enterprise (SBE/DVBE) Program — If an SBE/DVBE requirement is stated, each bidder must meet or exceed the stated SBE/DVBE requirement in Document 00020, “Notice Inviting Bids.” Failure to meet this minimum level of participation will cause SFCWA to reject the bid as non-responsive. In accordance with Document 00125, “Small/Disabled Veteran Business Enterprise Program,” the lowest bidder shall submit Document 00433, “Small/Disabled Veteran Business Enterprise List” and, for each firm identified as an SBE or DVBE in Document 00433, submit a Certification Document, as specified in Paragraph 4b or 4c of Document 00125, to SFCWA no later than 2:00 p.m. on the third business day after bid opening. Other bidders shall be prepared to submit these documents and have them ready to submit to SFCWA upon request.

8. Contractor's License — At the time of submitting a bid, the bidder shall possess a valid license issued by the California Contractors' State License Board, of the classification specified in Document 00020, “Notice Inviting Bids.” In addition, the bidder shall be registered with the California Department of Industrial Relations as a public works contractor.

9. In the event a bid is submitted on behalf of a joint venture, each party to the bid shall possess a valid California contractor's license at the time of the bid's submission. If such joint venture is the successful bidder, an appropriate license in the name of the joint venture shall be obtained prior to award of the Contract.

10. Prevailing Rates of Wages — The successful bidder and bidder's agents, employees, and subcontractors shall comply with all applicable provisions of the California Labor Code and all federal, state, and local laws and regulations that affect the hours of work, wages, and other compensation of employees, non-discrimination, and other conduct of the work.

11. Withdrawal or Modification of Bids — A bidder may withdraw its bid before the hour fixed for opening bids, without prejudice to itself, by submitting a written request for withdrawal of the bid. No bid may be withdrawn after the hour fixed for opening bids without rendering the accompanying cash, certified or cashier's check, or bidder's bond subject to forfeiture. Bids may be modified only if written notice is received by SFCWA prior to the time set for bid opening.

12. Lowest Responsible Bidder — A Lowest Responsible Bidder is an entity that has successfully performed similar work of comparable magnitude; is competent to manage the proposed undertaking and to carry it forward to a successful conclusion; and has adequate financial resources to undertake the proposed work.

In addition, the lowest responsible bidder shall not have committed any one or more of the violations listed below:

- a. A criminal conviction in connection with obtaining, attempting to obtain, or performing a public contract or transaction;
- b. A civil judgment involving fraud, the commission of a criminal offense, or a violation of the False Claims Act (California Government Code §§ 12650 et seq.), unfair competition laws, contractor licensing laws, or subcontractor listing laws, in connection with obtaining, attempting to obtain, or performing a public contract or transaction;
- c. A violation of state or federal regulations pertaining to any aspect of the performance of a public contract or transaction resulting in a threat to the health or safety of the contractor's employees, any other persons involved with the contract or transaction, or the general public;
- d. A violation of state or federal antitrust statutes or of any law, regulation, or agreement relating to conflict of interest, including but not limited to price fixing, bid rigging, or bid collusion, with respect to government-funded procurement.
- e. Noncompliance with state or federal laws or regulations pertaining to labor and employment standards, including those involving workplace safety and prevailing wages;
- f. Falsification of any document relating to a bid in response to a solicitation by SFCWA for the procurement of goods and services or a public work contract entered into;
- g. Concealment, withholding, and/or destruction of records it is required by law or contract to maintain;
- h. Submittal of false claims, certifications, statements, or fraud in performance or billing;
- i. Submittal of frivolous or overstated contract claims;
- j. Seeking or knowingly accepting non-public information relating to a solicitation in advance of SFCWA's public disclosure of the information, in violation of the terms of that solicitation and in an attempt to gain a competitive advantage in the SFCWA's solicitation process;

- k. Willful failure to perform in accordance with the terms and conditions of one or more public contracts with SFCWA;
- l. Gross negligence in its performance under one or more public contracts with SFCWA; or
- m. Debarment by any other governmental agency.

Any substantial evidence that a bidder has, through its acts or omissions, committed any one or more of the listed violations will cause SFCWA to reject the bid, unless the bidder can provide clear evidence of corrective action or an adequate showing that the acts or omissions associated with the violation(s) were insignificant and/or inadvertent.

13. Filing of Protest — Any bidder, within 7 days after opening of bids may file a bid protest, by submitting the protest in writing and addressed as follows: SFCWA, 1121 L St, Suite 806, Sacramento, California 95814. The protest letter shall set forth a detailed statement of the legal and factual grounds of protest including copies of relevant documents. Failure by any bidder to submit a timely bid protest constitutes a waiver of its right to file a protest related to this bid.

14. Award of Contract — If award is made, Contract will be awarded to the lowest responsive, responsible bidder whose bid complies with the specified requirements. Notice of award will be sent to the successful bidder at the mailing address indicated in Document 00420, "Bidder's General Information."

Determination of the lowest monetary bid will be determined by the Total Base Bid as defined in the Bidding Sheet, including additive bid items.

In case of discrepancy between the unit price and total price of an item, the unit price shall govern, provided that if the unit price is ambiguous, unintelligible, uncertain, or omitted, it shall be the amount obtained by dividing the amount set forth as the total price by the estimated quantity of the item. When the Bidding Sheet shows more than one item, and there is a conflict between the true total of the individual bid items and the sum shown as a total by the bidder on the Bidding Sheet, the true total will be used and the sum shown by the bidder will be disregarded.

In the event of a tie, award of the Contract will be determined by a publicly held coin toss.

Award will not be made for less than all of the work included in the specifications. SFCWA reserves the right to waive any informality in any bid, or to reject any or all bids. For a copy of SFCWA's bid protest procedures, call (916) 476-5056. Any bid which, in the opinion of the Engineer, is unbalanced between the various contract items as to be detrimental to interests of SFCWA will be rejected.

15. Other Documents — Within 15 days from the mailing date of notice of award of Contract, or within such additional time as the Engineer may allow upon a showing of good cause, the successful bidder will be required to submit for approval the following:

- Document 00660, "Workers' Compensation Insurance Certification," pursuant to Labor Code § 1861
- "ACORD® Certificate of Insurance," showing evidence of insurance in the amounts specified in General Conditions
- Performance and payment bonds, including all acknowledgments, in accordance with Paragraph 17
- Completed W-9 form

16. Execution of Contract — A bidder to whom award is made shall execute Document 00505, "Agreement," and return it to SFCWA along with the Acknowledgment of Agreement within 15 days from the mailing date of notice of award of Contract, or within such additional time as the Engineer may allow upon a showing of good cause. If the successful bidder fails or refuses to comply with the foregoing requirements, an award may be made to the next lowest responsive, responsible bidder. A corporation to which an award is made may be required, before the Contract is finally executed, to furnish evidence of its corporate existence, of its right to do business in California, and of the authority of the corporate officials signing the Contract and bonds for the corporation. SFCWA may require that a partnership or joint venture provide similar information.

17. Notice to Proceed — Upon the review and approval by SFCWA of the documents identified in Paragraph 14 and the execution of the Agreement by both parties, SFCWA will issue a Notice to Proceed. The Contractor shall not commence on-site work until the date specified in the Notice to Proceed.

18. Performance and Payment Bonds — The successful bidder shall furnish and maintain a performance bond and a labor and material payment bond issued by a surety approved by SFCWA. A surety authorized to issue bonds in California and in other states where work is to be performed, and whose bonding limitation is sufficient to provide bonds in the amount herein required shall be deemed to be approved unless specifically rejected by SFCWA. The Contractor's bonding company is required to be on the U.S. Department of the Treasury's Circular 570 list. Bonds from other sureties shall be accompanied by the documents enumerated in California Code of Civil Procedure § 995.660. The bonds shall be submitted in the form of Documents 00610, "Bond for Faithful Performance," and 00620, "Payment Bond," each equal to 100 percent of the bid.

END OF DOCUMENT

THIS PAGE INTENTIONALLY LEFT BLANK

DOCUMENT 00120
SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

1. Pre-bid Conference — A pre-bid conference will be held with responsible representatives of prospective bidders at the place and time specified in Document 00020, Notice Inviting Bids. *Attendance at the pre-bid conference is a condition precedent to submittal of a bid, and SFCWA will not consider a bid from any bidder not represented at the pre-bid conference.* Attendance at the pre-bid conference by subcontractors is not required. At this conference the Engineer and other representatives of SFCWA will discuss the work to be performed under these specifications. Prospective bidders are invited to present any relevant questions at the conference. However, whenever possible, questions for the conference should be prepared in written form and emailed or faxed to the below specified SFCWA representative's office no later than 3 business days before the prebid conference date at the address identified in Document 00020. Following the conference, bidders will be given a tour of the project.

2. Access to Worksite — Prospective bidders desiring to visit and inspect the worksite, in addition to the pre-bid conference may arrange access by calling (916) 646-3644 Mark Young (Westervelt) at least 2 business days before the desired site visit.

3. Requests for Clarification — In the event a prospective bidder desires clarification of details on the drawings or provisions of the specifications, request shall be made to SFCWA at least 7 calendar days before the scheduled opening of bids. If a response is made, it will be in writing for the benefit of all prospective bidders and without identification of the source of any inquiry.

Questions regarding this project shall be directed to Mark Young, Westervelt Ecological Services, (916) 646-3644 or via e-mail: myoung@westerveltecologicalservices.com. If additional copies of the specifications or drawings are desired, calls shall be directed to Mark Young, Westervelt Ecological Services, (916) 646-3644.

4. Submitting Bids in Person - Bidders submitting bids in person shall allow sufficient time for navigating through traffic in Sacramento, finding available parking and processing through building security to assure that bids are received prior to the deadline for submitting bids as specified in the bid documents. Bidders attending the bid opening may be required to present government-issued picture identification to building security officials, sign in at the Security Counter, and obtain a visitor's pass prior to attending the bid opening.

5. Within 14 *calendar* days after receipt of the Notice of Award, the Contractor's designated representative shall attend the Storm Water Pollution Prevention Plan (SWPPP) training provided by SFCWA. Mobilization shall not begin until Contractor's representative has been trained on implementation of the Project SWPPP. SFCWA will file the approved SWPPP on the State Water Resources Control Board's SMARTS website together with the Notice of Intent, and obtain a Waste Discharge Identification number (WDID).

6. Within 5 working days after the Notice to Proceed, the Contractor shall submit its Injury and Illness Prevention Program (IIPP) integrating SFCWA's applicable work practices, safety rules, and emergency action plan. The Contractor shall not perform any site work including mobilization until SFCWA has evaluated and accepted the Contractor's IIPP.

7. Bidder shall submit a complete Plan for Construction according to the requirements of Document 00425 Bidders Plan for Construction at the time of bidding. The Bidders Plan for Construction may be submitted on additional pages as necessary to demonstrate Contractor's capabilities to perform the project within the constraints of the Contract Documents. Failure to submit a complete Bidders Plan for Construction may be grounds for SFCWA to determine that a bid is non-responsive.

8. Bidder shall list the proposed project Site Representative in Document 00420. The bidder's proposed site representative must be the same individual listed in the bidders Statement of Pre-qualification as used by SFCWA to determine pre-qualified general contractors for this project. If the bidder fails to list a qualified site representative, this may cause SFCWA to reject the bid as non-responsive.

9. Bidding Documents — The enclosed Technical Specification and Drawings are for bidding purposes only. Upon receipt of permits, final Technical Specifications and Drawings will be provided to the Contractor for construction purposes with the Agreement for Execution.

END OF DOCUMENT

THIS PAGE INTENTIONALLY LEFT BLANK

DOCUMENT 00125
SMALL/DISABLED VETERAN BUSINESS ENTERPRISE PROGRAM

1. Program: SFCWA has instituted a Small/Disabled Veteran Business Enterprise (SBE/DVBE) Program that encourages the participation of SBEs and DVBEs in its contracts. Each bidder must meet the SBE/DVBE participation requirement as set forth in Document 00020, “Notice Inviting Bids.”

Any bid that does not meet the SBE/DVBE participation requirement will be deemed non-responsive and will be rejected.

2. Definitions:

a. Small Business Enterprise (SBE) — A small business enterprise is one (i) that meets the criteria for SBEs established by the Small Business Administration (SBA) in Title 13, Code of Federal Regulations, Part 121 and (ii) is within the SBA size standard for annual gross receipts or average number of employees as appropriate for the applicable type of business. For example, a specialty plumbing contractor would be considered an SBE if its annual gross receipts are less than \$14.0 million. A concrete pipe manufacturer would be considered an SBE if it has fewer than 500 employees. A complete list of business size standards can be found at <http://www.sba.gov/content/small-business-size-standards>.

In order to be recognized by SFCWA as an SBE, each firm must demonstrate its small business status as described in this document.

b. Disabled Veteran Business Enterprise (DVBE) — A business enterprise that: (i) is certified as a DVBE with the State of California or U.S. government; (ii) is at least 51 percent owned by one or more disabled veterans; (iii) is managed and controlled by one or more disabled veterans, and (iv) has its home office located in the United States. Additionally, the home office cannot be a branch or subsidiary of a foreign corporation, foreign firm, or other foreign-based business.

c. Disabled Veteran — As used in this document is defined as a person who (i) is a veteran of the U.S. military, naval or air service; (ii) has a service-connected disability as defined by the applicable certification agency (i.e., State of California or U.S. government); and (iii) is a California resident (if the firm has California DVBE certification.)

d. Subcontractor — A business enterprise that meets the definition of, and is listed in, Document 00430, “Subcontractor List.”

e. Vendor/Supplier — A vendor, manufacturer, supplier, or other business enterprise that will render goods or services to the Contractor and that does not meet the criteria defined in Document 00430, “Subcontractor List.”

f. Minority Business Enterprise (MBE) – A business enterprise that is at least 51 percent owned by a minority individual or group; or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more minority groups and whose management and daily operations are controlled and operated by one or more of these individuals. Minority includes Black Americans, Hispanic Americans, Asian-Pacific Americans (including persons whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, and Taiwan) or Native Americans (including American Indians, Eskimos, Aleuts and Native Hawaiians).

g. Woman-Owned Business Enterprise (WBE) – A business enterprise that is at least 51 percent owned by a woman or women; or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women and whose management and daily business operations are controlled and operated by one or more women.

3. SBE/DVBE Participation Recognition

- a. SFCWA will determine SBE/DVBE participation by adding the total value of all contracts entered into with SBEs and DVBEs. Contracts with subcontractors, vendors, and suppliers of all tiers may be counted toward-meeting SBE/DVBE participation requirement.
- b. If the bidder is an SBE or DVBE, it should list itself on Document 00433, "Small/Disabled Veteran Business Enterprise List," and complete and submit a certification document, as specified in Paragraphs 4b and 4c of this document. If SFCWA determines that the bidder qualifies for SBE or DVBE recognition, the bidder will be deemed to have met the SBE/DVBE participation requirement. However, if the prime contractor does not qualify as an SBE or DVBE, then utilization of subcontractors and/or vendors and suppliers will be necessary in order to meet the stated SBE/DVBE participation requirement.
- c. SFCWA will determine a bidder's attainment of the stated SBE/DVBE participation requirement with reference to the information provided in Document 00433, "Small/Disabled Veteran Business Enterprise List," as verified by the bidder's submission of a certification document, as specified in Paragraphs 4b and 4c of this document, for each SBE and DVBE listed in Document 00433.
- d. Once a firm has established its Small or Disabled Veteran Business Status at the time of bid, that firm will continue to be recognized as such for the work performed under the Contract for the duration of the Contract.

4. Documents To Be Submitted by the Lowest Bidder After the Bid Opening: The lowest bidder shall submit SBE/DVBE documentation to SFCWA, as identified in Document 00100, "Instructions to Bidders," no later than 2:00 p.m. on the third business day after bid opening. Documents shall not be faxed to SFCWA. The SBE/DVBE documentation shall consist of:

- a. **Document 00433, "Small/Disabled Veteran Business Enterprise List," identifying all the SBE and DVBE firms used to satisfy the SBE/DVBE participation requirement on the project.** The Document shall provide all requested information for each identified SBE and DVBE firm. If this Document is incomplete, SFCWA may reject the submitted bid as non-responsive.
- b. **For each firm identified as an SBE in Document 00433, "Small/Disabled Veteran Business Enterprise List," submission of one of the following:**
 - a valid Small Business Enterprise Certification Letter from the State of California Department of General Services
- c. **For each firm identified as a DVBE in Document 00433, "Small/Disabled Veteran Business Enterprise List," submission of one of the following:**
 - a letter of certification as DVBE from the State of California, or
 - a letter of certification as DBVE from the U.S. government

SFCWA may reject the submitted bid as non-responsive if the bidder fails to provide an acceptable application or letter from each firm listed on Document 00433.

5. Business Outreach Program Contract Compliance and Accountability Program: By the 10th day of every month following a monthly progress payment, the Contractor shall submit to SFCWA monthly utilization report that identifies:

- a. The amount paid during the preceding month to those SBE and DVBE firms identified in Document 00433, "Small/Disabled Veteran Business Enterprise List" and to other SBE/DVBE firms that are approved by SFCWA; and
- b. The estimated total number of all workers employed on the project.

- 6. Business Outreach Program Contract Compliance Close-Out Report:** By the 30th day from the date of SFCWA's Notice of Acceptance, the Contractor shall submit a report that identifies:
- a. The total amounts paid throughout the duration of the Contract to those SBE and DVBE firms identified in Document 00433, "Small/Disabled Veteran Business Enterprise List" and to each SBE/DVBE firm; and
 - b. Explanation for any difference between original Contract amount and the final total, using the Business Outreach Contract Compliance Close-Out Report form supplied by SFCWA.
- 7. Contract Compliance Monitoring:** SFCWA will implement a contract compliance monitoring program to insure proper and full utilization of SBE/DVBEs and achievement of contract requirements. Program requirements include but are not limited to: mandatory contract compliance meetings, project site visits, close out reporting, and SBE/DVBE subcontractor and vendor/supplier interviews.
- 8. Right to Audit:** In addition to any other audit rights SFCWA has under the Contract, SFCWA has the right to review, obtain, and copy records relating to compliance with the Small/Disabled Veteran Business Enterprise Program. SFCWA shall be provided with relevant information requested and be permitted access to Contractor's premises, upon reasonable notice, during normal business hours for the purpose of interviewing employees and inspecting and copying tax returns, books, records, accounts, canceled checks or other proofs of payment, and other material that may be relevant to a matter under investigation for the purpose of determining compliance. SFCWA has the right to audit books and records of the Contractor, subcontractors, and all other firms claiming SBE or DVBE status. The Contractor agrees to include the provisions of this paragraph and to make them applicable to all contracts with firms claiming SBE or DVBE status.
- 9. Substitution of Subcontractors and Vendors/Suppliers:** If the Contractor wishes to substitute a subcontractor listed in Document 00430, "Subcontractor List," or any firm listed in Document 00433, "Small/Disabled Veteran Business Enterprise List," it shall submit a written request of the substitution to SFCWA. Unless SFCWA otherwise agrees, the Contractor shall maintain its original SBE/DVBE commitment. Nothing herein shall be construed to supercede or limit the requirements for subcontractor substitution as provided in Section 4100 et seq. of the California Public Contract Code.
- 10. Consequences of Noncompliance with the Small/Disabled Veteran Business Enterprise Program:**
- a. If the Contractor fails to timely submit its Business Outreach Program Utilization Report or Contract Compliance Close-out Report, or falsifies or misrepresents information in Document 00433, "Small/Disabled Veteran Business Enterprise List," it will be considered in material breach of contract. In addition to any other remedy, SFCWA may have under this Contract or by operation of law, SFCWA, in its sole discretion, may impose any or all of the following provisions against the Contractor:
 - i. Assess the cost of SFCWA's audit of books and records of the Contractor, subcontractors, and all other firms claiming SBE or DVBE status audit where such audit is necessary because the Contractor has failed to timely submit a Business Outreach Program Utilization Report or Close-out Report;
 - ii. Withhold payment of an amount up to 10 percent of a monthly progress payment;
 - iii. Assess a monetary penalty in an amount up to 5 percent of the Contract value; or
 - iv. Disqualify the Contractor from bidding on SFCWA projects for a period of up to 5 years.
 - b. Following notification of intent to assess any of the penalties described above, the Contractor or other firm shall have the right to an administrative hearing conducted by SFCWA or his designee, whose conclusion shall be final to the extent permitted by law.

END OF DOCUMENT

THIS PAGE INTENTIONALLY LEFT BLANK

DOCUMENT 00200
INFORMATION AVAILABLE TO BIDDERS

The following geotechnical reports contain information regarding these specifications.

No.	Title	Date	Author	Price
1.	Geotechnical Investigation, Tule Red, Solano County, California	12/22/15	Hultgren – Tillis Engineers	No charge
2.	Geotechnical Engineering Evaluation Cross Levee	02/29/16	Hultgren-Tillis Engineers	
3.	Tule Red CDFW Temporary Access Permit	08/16	CA Dept of Fish & Wildlife	

SFCWA does not represent that these reports show the conditions that will actually be encountered by the bidder in performing the work. SFCWA represents only that the reports show the conditions encountered at particular points from which the tests were obtained.

The following documents were prepared in connection with these specifications, and are referenced in the text.

No.	Title	Date	Author	Price
1.	CEQA Addendum, Tule Red Restoration Project	02/16	ICF International and Westervelt Ecological Services	No charge
2.	Suisun Marsh Habitat Management, Preservation and Restoration Plan Final EIS/EIR, Chapter 5 and Appendices B, C, and D	01/11	ICF International	
3.	Mitigation Monitoring and Reporting Program	03/11/16	State and Federal Contractors Water Agency	
4.	U.S. Fish & Wildlife Section 7 Biological Assessment, Appendix B	11/11	U.S. Fish & Wildlife Service	

Data and information made available in these documents are for the bidder's information. SFCWA assumes no responsibility for any interpretation of or conclusion drawn from the data or information by the bidder.

END OF DOCUMENT

THIS PAGE INTENTIONALLY LEFT BLANK

**DOCUMENT 00305
BID PROPOSAL**

For constructing the Tule Red Tidal Restoration Project Phase I

Bids received until 3:00 p.m. July 27, 2016

**To the General Manager of the State and Federal
Contractors Water Agency:**

The undersigned hereby declares, as bidder, that the only persons or parties interested in this bid as principals are those named herein; that no director, officer, or employee of SFCWA is interested directly or indirectly in this bid or in the profits to be derived from the contract proposed to be taken, other than as permitted by law; that this bid is made without connection with any person or persons submitting a bid on this project; that the bid is fair and without collusion or fraud; that it has examined the site of the work; that it has read the contract documents, including the conditions of the contract, insurance requirements, the specifications, and drawings, and it proposes and agrees that if its bid as submitted in the attached Document 00310, "Bidding Sheet(s)," is accepted, it will execute Document 00505, "Agreement," to perform the contract work and to complete it within the time

provided; and that it will accept in full payment therefor the prices named in the Bidding Sheet(s). Prices include furnishing materials, except as otherwise provided in the specifications; performing requisite or proper labor; providing necessary machinery, tools, apparatus, and other means of construction; and performing and completing the work in the manner set forth, described, and shown in the contract documents.

The bidder further declares that its surety or sureties have agreed to furnish bonds in the form and aggregate amounts set forth in the contract documents in the event contract is awarded on the basis of this bid.

Dated _____

Dated _____

BIDDER

BIDDER

By:

By:

Signature _____

Signature _____

Printed Name _____

Printed Name _____

Title _____

Title _____

(If the bidder is a corporation, the proposal shall be signed above by one of the following: Chairman of the Board, President or any Vice President.)

(If the bidder is a corporation, the proposal shall be signed above by one of the following: Secretary, any Assistant Secretary, Chief Financial Officer or any Assistant Treasurer.)

Note: Execute the attached acknowledgement and submit with the bid.

END OF DOCUMENT

**DOCUMENT 00310
BIDDING SHEET**

Price for construction of Tule Red Tidal Restoration Project Phase I

1. Bid Schedule:

BASE BID: Award of contract, if award is made, will be based on the total Base Bid based on the sum total of Schedule A and Schedule B as follows.

Schedule A:

Item	Description	Estimated/ Final Pay Quantity	Unit	Unit Price	Amount
A1	Limited Work Mobilization and Demolition for the lump sum of				\$
A2	Stripping and Stockpiling	0.7	AC	\$	\$
				AC	
A3	Third Order Channel Excavation	1,363	LF	\$	\$
				LF	
A7	Erosion Control Dust Control for the lump sum of				
Total of Schedule A Bid Items A1 through A3, and A7					\$

Schedule B:

Item	Description	Estimated/ Final Pay Quantity	Unit	Unit Price	Amount
B1	Mobilization and Demobilization for the lump sum of				\$
B2	Stripping, Stockpiling, and Re-spreading	90	AC	\$	\$
				AC	
B3	Permanent Access Crossing – Tier 2 for the lump sum of				\$
B4	Demolition for the lump sum of				\$
B5	Removal of Debris	1	TON	\$	\$
				TON	

Bidding Sheet

B6	Muck Channels & Placement (FP)	8,000	CY	\$	\$
				CY	
B7	Marsh Pond Excavation for the lump sum of				\$
B8	4 th Order Channel Excavation for the lump sum of				\$
B9	3 rd Order Channel Excavation	4,377	LF	\$	\$
				LF	
B10	2 nd Order Channel Excavation (FP)	13,677	LF	\$	\$
				LF	
B11	1 st Order Channel Excavation (FP)	15,703	LF	\$	\$
				LF	
B12	Tide Panne Excavation and Placement for the lump sum of				\$
B13	Temporary Crossing Pipe	2	EA	\$	\$
				EA	
B14	Temporary Drain Connection	385	LF	\$	\$
				LF	
B15	Control of Water for the lump sum of				\$
B16	Repair of Existing Marsh Rim for the lump sum				\$
B17	Noyce Slough Road Grading and Repair for the lump sum of				\$
B18	Marsh Swale Wood Weirs	10	EA	\$	\$
				EA	
B19	Erosion Control Seeding	45	AC	\$	\$
				AC	
B20	Erosion Control Straw Wattles	5,300	LF	\$	\$
				LF	
B21	Erosion Control Coir Fabric	17,841	SY	\$	\$
				SY	
B22	Erosion Control Dust Control for the lump sum of				\$
B23	Clearing Allowance				\$94,200

Total of Schedule B Bid items
B1 through B23 \$ _____

Total Base Bid, sum of Schedule
A and Schedule B \$ _____

Additive Bid Items: The following bid items are part of the base bid, but may not be included in the Work.

A4	Third Order Channel Extensions	1,159	LF	\$ _____	\$ _____
			LF		
A5	Erosion Control Coir Fabric	750	SY	\$ _____	\$ _____
			SY		
A6	Temporary Pipe at Permeant Access Crossing and Construction Access Ramp	2	EA	\$ _____	\$ _____
			EA		

Total of Schedule Additive Bids
items A4 through A6 \$ _____

Total Base Bid, plus Additive Bid
Items A4 through A6 \$ _____

All bid items marked with "FP" are Final Pay items.

2. Bid Item Description:

Bid items shall be defined pursuant to the following general descriptions, however to be constructed adoring to these Contract Documents, including the requirements contained in the drawings and specifications. Payment will be made as described below for each bid item and as specified in the General Conditions and Specification 01025 Measurement and Payment.

Schedule A

Schedule A bid items separate work which will be completed during the summer of 2016 as outlined in Section 01010. The proposed shortened work season would include the construction of the Tier 1 fill of the Permanent Access Crossing and construction of a Construction Access Ramp in the footprint of the South Habitat Berm. Fill material to construct these features will be excavated from 3rd Order Channels on the low order channel assemblies "A", "B", and "C", and excavated Third Order Extensions from these channels to the existing channel located along the toe of the existing North Berm. Schedule A also includes bid items for incidental work during Schedule A construction including stripping and stockpiling, control of water, erosion control, and placement of temporary pipes in the Permanent Access Crossing and Construction Access Ramp.

Bid Item A1 – Limited Work Mobilization and Demobilization: Bid Item A1 includes costs for performing limited work during a shortened construction window. Bid Item A1 includes, but is not limited to added costs for: obtaining bonds, insurance and financing; movement of equipment, materials and personnel to and from the job site; supervision, certificates, permits, submittals and RFIs; utilities, site maintenance, cleanup, dust control and work

Bidding Sheet

incidentals to the contract not specifically identified under the remaining items, or costs incurred prior to beginning work and after completion of work on the various contract items in the Schedule A bid.

The Contractor's payment for this item will be by Lump Sum as provided in Section 01505.

Bid Item A2 – Stripping and Stockpiling: Bid Item A2 includes, but is not limited to: all equipment, labor, and materials incidental to the stripping and stockpiling in the footprint of the Construction Access Ramp and Permanent Access Crossing, as well as the removal of mud from the existing drain channel for the Construction Access Ramp and Permanent Access Crossing Tier 1.

The Contractor's payment for this item will be by Acre.

Bid Item A3 – Third Order Channel Excavation: Bid Item A3 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the excavation of Third Order Channels in assemblies A, B, and C, hauling of excavated materials, and placement of excavated material as fill in the Permanent Access Crossing Tier 1 lift and Construction Access Ramp.

The Contractor's payment for this item shall be by the Linear Foot of constructed third order channel.

Bid Item A7 – Erosion Control Dust Control: Bid Item A7 includes, but is not limited to: all equipment, labor, materials, and incidental work required to keep dust control on the site and access roads within legal limits and the permit conditions. Dust control will also be used to keep unvegetated grading locations active, in addition to keeping soil conditions optimum for compaction.

The Contractor's payment for this item shall be Lump Sum

Schedule B

Schedule B items are work which may be completed during an entire season not shortened by weather or delay of permits.

Bid Item B1 – Mobilization and Demobilization: Bid Item B1 includes, but is not limited to: obtaining bonds, insurance and financing; movement of equipment, materials and personnel to and from the job site; supervision, certificates, permits, submittals and RFIs; utilities, site maintenance, cleanup, dust control and work incidentals to the contract not specifically identified under the remaining items, or costs incurred prior to beginning work and after completion of work on the various contract items for construction in a second season.

The Contractor's payment for this item will be by Lump Sum as provided in Section 01505.

Bid Item B2 – Stripping, Stockpiling, and Re-spreading: Bid Item B2 includes, but is not limited to: all equipment, labor, and materials incidental to the stripping, stockpiling, re-spreading, and imprinting of topsoil.

The Contractor's payment for this item shall be by the acre.

Bid Item B3 – Permanent Access Crossing Assembly – Tier 2: Bid Item B3 includes, but is not limited to: all equipment, labor, and materials incidental to construction of the Permanent Access Crossing Tier 2 and subsequent lifts, procurement and placement of the culvert, procurement, transport, and installation of the slidegates, and procurement, transport and placement of the select fill around the culvert including Rock Riprap Facing.

The Contractor's payment for this item shall be by the Lump Sum.

Bid Item B4 – Demolition: Bid Item B4 includes, but is not limited to: equipment, labor, material, and costs incidental to the demolition, transport and disposal of the existing duck blinds, pedestrian bridges, and water control pipes called out on the plans.

The Contractor's payment for this item shall be by the Lump Sum.

Bid Item B5 - Removal of Debris: Bid Item B5 includes, but is not limited to: equipment, labor, material, and costs incidental to the demolition, transport and disposal of debris uncovered during excavation other than the identified walking bridges, duck blinds, and water control pipes and including but not limited to piles, boat parts, tires, and other flotsam.

The Contractor's payment for this item shall be by the Ton.

Bid Item B6 – Muck Channels and Placement: Bid Item B6 includes, but is not limited to: equipment, labor, material, and costs incidental to the excavation, transport, and placement of mud from the existing channel to the marsh pond bottoms.

The Contractor's payment for this item shall be as a Final Pay item.

Bid Item B7 – Marsh Pond Excavation: Bid Item B7 includes, but is not limited to: equipment, labor, material, and costs incidental to the excavation of the marsh ponds and existing brood pond ridge, transport of materials to fill locations, and fill of the South Habitat Berm, North Habitat Berm, Marsh Ridge, existing Marsh Rim, and/or Phase 2 Fill source locations.

The Contractor's payment for this item shall be by the Lump Sum.

Bid Item B8 – Fourth Order Channel Excavation: Bid Item B8 includes, but is not limited to: equipment, labor, material, and costs incidental to the excavation of the fourth-order channel, transport of materials to fill locations, and fill of the South Habitat Berm, North Habitat Berm, Marsh Ridge, and/or Phase 2 Fill source locations.

The Contractor's payment for this item shall be by Lump Sum.

Bid Item B9 – Third Order Channel Excavation: Bid Item B9 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the excavation of Third Order Channels in assemblies D, E, F, G, H, I, J, K, L, M, N, and P, hauling of excavated materials, and placement of excavated material as fill on top of existing boat channels, and to build marsh berms, and marsh mounds.

The Contractor's payment for this item shall be by Linear Foot.

Bid Item B10 – Second Order Channel Excavation: Bid Item B10 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the excavation of Second Order Channels, hauling of excavated materials, and placement of excavated material as fill on top of existing boat channels, and to build marsh berms, and marsh mounds.

The Contractor's payment for this item shall be as a Final Pay item.

Bid Item B11 – First Order Channel Excavation: Bid Item B11 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the excavation of First Order Channels and sidecast placement of excavated material along the channel.

The Contractor's payment for this item shall be as a Final Pay item.

Bid Item B12 – Tide Panne Excavation: Bid Item B12 includes, but is not limited to: all equipment, labor, materials, and incidental work required for stripping of the Tide Panne footprints, excavation of the Tide Panne, placement of material in the Tide Panne perimeter berm, and dressing of top soil over the finished elevations.

The Contractor's payment for this item shall be Lump Sum.

Bid Item B13 – Temporary Crossing Pipe: Bid Item B13 includes, but is not limited to: all equipment, labor, materials, and incidental work required for placement of 36" diameter dual wall HDPE pipe and backfill at the temporary crossings over the Fourth Order Channel.

Bidding Sheet

The Contractor's payment for this item shall be by Each Crossing.

Bid Item B14 – Temporary Drain Connection: Bid Item B14 includes, but is not limited to: all equipment, labor, materials, and incidental work for installing the temporary drain connection on the Northern edge of the project area.

The Contractor's payment for this item shall be by the Linear Foot.

Bid Item B15 – Control of Water: Bid Item B15 includes, but is not limited to: all equipment, labor, materials, and incidental work for controlling both surface and subsurface water in the project footprint.

The Contractor's payment for this item shall be Lump Sum.

Bid Item B16 - Repair of Existing Marsh Rim: Bid Item B16 includes, but is not limited to, all equipment, labor, materials, and incidental work for repairing the existing Marsh Rim.

The Contractor's payment for this item shall be Lump Sum.

Bid Item B17 – Noyce Slough Road Grading and Repair: Bid Item B17 includes, but is not limited to: all equipment, labor, materials, and incidental work for repairing and re-grading the Noyce Slough Road from the property gate to the existing club house.

The Contractor's payment for this item shall be Lump Sum.

Bid Item B18 - Marsh Swale Wood Weirs: Bid Item B18 includes, but is not limited to: all equipment, labor, materials, and incidental work for installing the wood weirs in the marsh ridge swales.

The Contractor's payment for this item shall be per Each weir installed

Bid Item B19 – Erosion Control Seeding: Bid Item B19 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the seeding of the north and south habitat berms, marsh ridge, maintenance berm and marsh rim.

The Contractor's payment for this item shall be by the Acre.

Bid Item B20 – Erosion Control Straw Wattle: Bid Item B20 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the installation of Straw Wattles at the new hinge point of the habitat berm and Noyce Slough Road.

The Contractor's payment for this item shall be by Linear Foot.

Bid Item B21 – Erosion Control Coir Fabric: Bid Item B21 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the installation of coir fabric on the Marsh Ridge, Marsh Rim, Maintenance Berm and Permanent Access Crossing.

The Contractor's payment for this item shall be by the Square Yard.

Bid Item B22 – Erosion Control Dust Control: Bid Item B22 includes, but is not limited to: all equipment, labor, materials, and incidental work required to keep dust control on the site and access roads within legal limits and the permit conditions. Dust control will also be used to keep unvegetated grading locations active, in addition to keeping soil conditions optimum for compaction.

The Contractor's payment for this item shall be Lump Sum

Bid Item B23 – Clearing Allowance: Bid Item B23 includes, but is not limited to: all equipment, labor, materials, and incidental work for Clearing all locations on site where there is cut, fill, haul routes, and any location where there is vehicular activity

The Contractor's payment for this item shall be pursuant to the Allowance provisions of the Contract.

Additive Bid Items

Additive bid items are not part of the Base Bid and will not be part of the Base Contract work. Additive items will be added to the Work through Contract Change Orders to be compensated at the cost basis included in this Bidding Sheet.

Additive Bid Item A4 – Third Order Channel Extensions: Bid Item A4 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the excavation of Third Order Channels to connect lower order channel assemblies A, B, and C to the existing drain channel along the North Berm of the property, hauling of excavated materials, and placement of excavated material as fill in the Construction Access Ramp and Permanent Access Crossing Tier 1 Fill.

The Contractor's payment for this item shall be by Linear Foot.

Additive Bid Item A5 – Erosion Control Coir Fabric: Bid Item A5 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the installation of coir fabric on the Permanent Access Crossing Tier 1 fill.

The Contractor's payment for this item shall be Square Yard.

Additive Bid Item A6 – Temporary Pipe at Permanent Access Crossing and Construction Access Ramp: Bid Item A6 includes, but is not limited to: all equipment, labor, materials, and incidental work required for placing a 36" diameter dual wall HDPE pipe through the Permanent Access Crossing and a separate 36" diameter dual wall HDPE pipe through the Construction Access Ramp prior to demobilizing from the first construction season, and removal and backfill of the pipes at the initiation of the second construction season.

The Contractor's payment for this item shall be per each pipe assembly placed.

END OF DOCUMENT

THIS PAGE INTENTIONALLY LEFT BLANK

DOCUMENT 00410
BIDDER'S BOND

(Not necessary if cash or certified
or cashier's check accompanies bid)

We, the undersigned principal, and surety, a corporation duly organized under the laws of the State of _____, duly authorized to conduct a surety business in California, acknowledge ourselves, our successors and assigns, jointly and severally, bound to State and Federal Contractors Water Agency (hereinafter "SFCWA") in the sum of dollars (\$ _____) to be paid to SFCWA if the bid of the undersigned principal for the Tule Red Restoration Project of the SFCWA, including any and all addenda issued before the bid opening date, shall be accepted and the proposed contract awarded to the principal, and the principal shall fail to execute the contract and furnish the bonds required in connection therewith within the time and in the manner required by the specifications; otherwise, this obligation to be void.

In the event suit is brought upon this bond by SFCWA and judgment is recovered, the surety shall pay all costs incurred by SFCWA in such suit, including a reasonable attorney's fee to be fixed by the court.

EXECUTED on _____.

Principal _____

By _____

Title _____

(If the Principal is a corporation, the Chairman of the Board, President, or any Vice President shall sign above.)

By _____

Title _____

(If the Principal is a corporation, the Secretary, any Assistant Secretary, Chief Financial Officer, or any Assistant Treasurer shall sign above.)

Surety's bond number _____

Surety _____

Address _____

Telephone number _____

[SURETY'S CORPORATE SEAL]

By _____

Title _____

Note: Execute the attached acknowledgements and submit with the bid.

END OF DOCUMENT

BIDDER'S ACKNOWLEDGEMENT OF BIDDER'S BOND

STATE OF CALIFORNIA)
)
COUNTY OF _____)

On **[date]** _____, before me, _____, Notary Public,

personally appeared _____, and _____,
(Name(s) of Signer(s))

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within Bidder's Bond and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the Bidder's Bond the person(s), or the entity upon behalf of which the person(s) acted, executed the Bidder's Bond.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Seal)

Signature _____

**ATTORNEY IN FACT'S ACKNOWLEDGEMENT OF
BIDDER'S BOND**

STATE OF CALIFORNIA)
)
COUNTY OF _____)

On [date] _____, before me, _____, Notary Public,

personally appeared _____,
(Name of Signer)

who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within Bidder's Bond and acknowledged to me that he/she executed the same in his/her authorized capacity as the attorney in fact, and that by his/her signature on the Bidder's Bond the person, or the entity upon behalf of which the person acted, executed the Bidder's Bond.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Seal)

Signature _____

THIS PAGE INTENTIONALLY LEFT BLANK

DOCUMENT 00420
BIDDER'S GENERAL INFORMATION

Replies to these inquiries are required and must be full and explicit. Attach additional sheets if necessary. Please print or type.

1. Bidder's name and mailing address:

2. Bidder's street address:

3. Bidder's telephone number: (____) _____

Bidder's fax number: (____) _____

4. The bidder acknowledges receipt of Addendum Number(s) _____ through _____.

5. If bidder is a corporation, in which state is it incorporated? _____.

6. Bidder's California contractor's license number (if a bid is submitted on behalf of a joint venture, each joint venture partner shall submit information regarding its individual license):

Classification(s): _____

Certification(s): _____
(if required under contract)

License number(s): _____

Expiration date(s): _____

Name of licensee and Responsible Managing Officer or Responsible Managing Employee, if different from item 1 above:

7. Name of person who performed the site inspection, if any, for the bidder:

Name: _____ Date of inspection: _____

8. Percentage of work the bidder intends to perform with its own work force (i.e., excluding subcontractors): _____

9. a. Is the bidder a regional firm, i.e., located at a fixed address where administrative, clerical, professional or other productive work is performed relative to its commercial purpose, and located within the Counties of Los Angeles, Orange, Riverside, San Diego, San Bernardino and Ventura for a minimum of one year immediately prior to the bid?

Yes ____ No ____

b. If No, provide below the estimated value of regional subcontractor and supplier participation on the project. Total amount of contracts with regional firms: _____

10. Number of full-time employees employed by the bidder: _____

Bidder's General Information

11. Name of person who proposed by the bidder as the project Site Representative:

Name of Site Representative: (Must be same individual as listed in bidders Statement of Pre-qualification)

END OF DOCUMENT

DOCUMENT 00425
BIDDER'S PLAN FOR CONSTRUCTION

Explain your plan or layout for performing the proposed work, including a detailed description of the proposed construction sequence and schedule of controlling operations within the requirements and constraints of these Contract Documents and applicable permit work orders. Indicate which categories of work will be performed by your labor force and which categories will be performed by subcontractors. The detailed description should reflect your best judgment of how the work will be broken into elements to enable optimum construction performance within the permit, environmental, and Contract time as detailed in the Contract Documents. Provide your Plan for Construction on additional sheets to address, at a minimum, the following elements:

1. A general plan for project staffing shall be provided including a list of the following key positions:
 - a. Project Manager;
 - b. Site Representative/Superintendent;
 - c. Designated representative for SWPPP training;
2. Preliminary construction schedule assuming receiving Notice to Proceed September 2, 2016 including:
 - a. Schedule shall be developed following the requirements of Specification Section 01312;
 - b. Identification of controlling operation tasks;
 - c. Identification of critical excavation or earthwork activity and predicted production rate to meet project schedule; and
 - d. Closeout and seeding- post construction BMP activities.
3. Project equipment plan to include:
 - a. Listing of all anticipated equipment to be used on the project; including horsepower (HP), exact tier model (1-4), including interim (i) or final (f), and the California Air Resources Board Equipment Identification Numbers (EINs). Equipment not registered with the California Air Resources Board may not be used on the project. In the event that a piece of equipment will need to be changed, the Contractor shall still submit list of equipment that is anticipated to be used with EIN number provided. An incomplete list of equipment and supporting data is grounds for rejecting the bid as non-responsive.
 - b. Provide a calendar or spreadsheet that depicts which pieces of equipment will be used for each phase of construction and provide how many hours each piece of machinery (with an EIN number) is anticipated to be utilized daily. The sum of all pieces of machinery running per day shall not exceed Bay Area Quaility Management District air quality threshold levels, including Nitrogen Oxide (NO_x) emissions.
4. A Haul Route/Vehicle Corridor Plan showing how equipment routes to and from excavation locations to fill areas within the construction zone will be established and maintained in order the minimize the footprint of disturbed soil, Vegetation, and potential wildlife habitat, and
5. Plan for Control of Water per Section 02140.
6. Emergency Spill Response

An incomplete Plan for Construction or a Plan for Construction that does not demonstrate conformance with the contract requirements as contained in these Contract Documents may cause SFCWA to reject the bid as non-responsive.

END OF DOCUMENT

THIS PAGE INTENTIONALLY LEFT BLANK

**DOCUMENT 00430
SUBCONTRACTOR LIST**

Listed hereinafter are the names, addresses, California contractor's license numbers, and Department of Industrial Relations (DIR) public works contractor registration number of all Subcontractors who will be employed, and the kind of work which each will perform if the contract is awarded to the undersigned. I understand that under Public Contract Code Section 4100 et seq. (4104), I must clearly set forth:

- (a) The name, the location of the place of business, and the California contractor license number of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor's total bid or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime contractor's total bid or ten thousand dollars (\$10,000), whichever is greater.
- (b) The portion of the work, which will be done by each Subcontractor under this act. The Prime Contractor shall list only one (1) Subcontractor for each portion as is defined by the Prime Contractor in his or her bid.
- (c) Violations of this Act, the Prime Contractor shall be subject to penalties set forth in Public Contract Code Sections 4110 and 4111.
- (d) The Department of Industrial Relations public works contractor registration number of all Subcontractors who will be employed to perform the contract if the contract is awarded.

Note: This document must be submitted with the bid. Attach additional sheets if necessary.

Subcontractor's name, California contractor's license number, and DIR public works registration number	Subcontractor's place of business, address, street, and city	Description and dollar value of work to be performed
Name: Lic. No. DIR Registration No.		Description: \$
Name: Lic. No. DIR Registration No.		Description: \$
Name: Lic. No. DIR Registration No.		Description: \$
Name: Lic. No. DIR Registration No.		Description: \$

Subcontractor's name, California contractor's license number, and DIR public works registration number	Subcontractor's place of business, address, street, and city	Description and dollar value of work to be performed
Name: Lic. No. DIR Registration No.		Description: \$
Name: Lic. No. DIR Registration No.		Description: \$
Name: Lic. No. DIR Registration No.		Description: \$
Name: Lic. No. DIR Registration No.		Description: \$
Name: Lic. No. DIR Registration No.		Description: \$
Name: Lic. No. DIR Registration No.		Description: \$
Name: Lic. No. DIR Registration No.		Description: \$
Name: Lic. No. DIR Registration No.		Description: \$
Name: Lic. No. DIR Registration No.		Description: \$

END OF DOCUMENT

DOCUMENT 00433
SMALL/DISABLED VETERAN BUSINESS ENTERPRISE LIST

List all SBE and DVBE subcontractors, vendors, manufacturers, suppliers, or other businesses that will render a good or service to the bidder. For each SBE and DVBE listed, provide a short description of work and value of subcontract, material contract, or purchase order. Attach additional sheets if necessary. If the prime contractor is an SBE or a DVBE, the bidder should be listed itself on this form. Unless the bidder submits a certification document, as specified in Paragraphs 4b and 4c of Document 00125, for each firm listed below, that firm will not be counted toward meeting the SBE/DVBE requirement.

Note: The low bidder shall submit this document no later than 2:00 p.m. on the third business day after bid opening.

SBE/DVBE business name and city and certification account number	SBE or DVBE	Description of work	Value of subcontract, material contract, or purchase order
_____			\$
Certification Account No.			
_____			\$
Certification Account No.			
_____			\$
Certification Account No.			
_____			\$
Certification Account No.			
_____			\$
Certification Account No.			
_____			\$
Certification Account No.			

Small/disabled Veteran Business Enterprise List

SBE/DVBE business name and city and certification account number	SBE or DVBE	Description of work	Value of subcontract, material contract, or purchase order
_____ Certification Account No.			\$
_____ Certification Account No.			\$
_____ Certification Account No.			\$
_____ Certification Account No.			\$
_____ Certification Account No.			\$
_____ Certification Account No.			\$
_____ Certification Account No.			\$
_____ Certification Account No.			\$
_____ Certification Account No.			\$

END OF DOCUMENT

DOCUMENT 00480
DECLARATION OF NONCOLLUSION TO BE EXECUTED BY BIDDER
AND SUBMITTED WITH BID

The undersigned declares, under penalty of perjury of the laws of the State of California, that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or a sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid or refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or that of any other bidder, or to secure any advantage against the public body awarding the contract or anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Bidder: _____

By: _____

Title: _____

Executed on _____

END OF DOCUMENT

THIS PAGE INTENTIONALLY LEFT BLANK

DOCUMENT 00505
AGREEMENT

THIS AGREEMENT, entered into on _____ by and between State and Federal Contractors Water Agency, a joint powers authority organized and incorporated under Joint Exercise of Powers Act of the State of California, hereinafter designated as SFCWA, party of the first part, and _____

hereinafter designated as the Contractor, party of the second part,

WITNESSETH: That the parties hereto do mutually agree as follows:

ARTICLE I. For and in consideration of the payments and agreements hereinafter mentioned to be made and performed by SFCWA, the Contractor agrees with SFCWA to construct _____

and to perform and complete in a good and workmanlike manner all the work pertaining thereto shown on the drawings and described in the specifications hereto attached, to furnish at its own proper cost and expense all tools, equipment, labor, and materials necessary therefor, except such materials as in the said specifications are stipulated to be furnished by SFCWA, and to do everything required by this Agreement and the said specifications and drawings.

ARTICLE II. For doing all the work contemplated and embraced in this Agreement; also for all loss and damage arising out of the nature of the work aforesaid, or from weather, floods or other causes, or from any unforeseen difficulties which may arise or be encountered in the prosecution of the work until its acceptance by SFCWA, and for all risks of every description connected with the work and for all expenses incurred by or in consequence of the suspension or discontinuance of work, except such as in the said specifications are expressly stipulated to be borne by SFCWA; and for well and faithfully completing the work and the whole thereof, in the manner shown and described in said drawings and specifications and in accordance with the requirements of the Engineer under them, SFCWA will pay and the Contractor shall receive in full compensation therefor the prices named in _____

of the Document 00310, "Bidding Sheet(s)," of the bid hereto attached.

ARTICLE III. SFCWA hereby promises and agrees with the said Contractor to employ, and does hereby employ the said Contractor to complete the work according to the terms and conditions herein contained and referred to, for the prices aforesaid, and hereby contracts to pay the same at the time, in the manner and upon the conditions set forth in the specifications; and the said parties for themselves, their heirs, executors, administrators, successors, and assigns, do hereby agree to the full performance of the covenants herein contained.

ARTICLE IV. Documents 00020, "Notice Inviting Bids"; 00100, "Instructions to Bidders"; 00125, "Small/Disabled Veteran Business Enterprise Program"; 00305, "Bid Proposal"; 00700, "General Conditions"; 00800 "Supplementary General Conditions", the project specifications; the drawings; and supplements and addenda to these documents are hereby incorporated in and made part of this Agreement.

IN WITNESS WHEREOF: The parties hereto have caused this contract to be made on the day and year first above written.

STATE AND FEDERAL
CONTRACTORS WATER AGENCY

CONTRACTOR

[SFCWA SEAL]

By _____

Title _____
(If the Contractor is a corporation, the Chairman of the Board,
President or any Vice President shall sign above.)

By _____

By _____
for GENERAL MANAGER
of
State and Federal
Contractors Water Agency

Title _____
(If the Contractor is a corporation, the Secretary, any
Assistant Secretary, Chief Financial Officer, or any Assistant
Treasurer shall sign above.)

Attest:

EXECUTIVE SECRETARY
of
State and Federal
Contractors Water Agency

Approved as to form:

for GENERAL COUNSEL
of
State and Federal
Contractors Water Agency

Note: Execute and submit this document and the attached acknowledgment in accordance with instructions in Document 00100, "Instructions to Bidders," and furnish an endorsed and executed Power of Attorney.

END OF DOCUMENT

THIS PAGE INTENTIONALLY LEFT BLANK

THE STATE AND FEDERAL CONTRACTORS WATER AGENCY OF CALIFORNIA

DOCUMENT 00520

ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION

Escrow Agreement No. _____

This Escrow Agreement is made and entered into by and between The State & Federal Contractors Water Agency, whose address is: 1121 L Street, Suite 806, Sacramento, California 95814, (hereinafter called "SFCWA"); _____

_____ whose address is:

_____ (hereinafter called "Contractor"); and

_____, whose address is:

_____ (hereinafter called "Escrow Agent").

For the consideration hereinafter set forth, SFCWA, the Contractor, and the Escrow Agent agree as follows:

(1) Pursuant to § 22300 of the Public Contract Code of the State of California, the Contractor has the option to deposit securities with the Escrow Agent as a substitute for retention earnings required to be withheld by SFCWA pursuant to a contract entered into between SFCWA and the Contractor for the construction of _____

_____, in the amount of _____,

dated _____ under Specifications No. _____, (hereinafter called "Contract") said Contract being denominated as Contract No. _____.

Alternatively, on written request of the Contractor, SFCWA shall make payments of the retention earnings directly to the Escrow Agent. When the Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify SFCWA within 10 days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between SFCWA and the Contractor. Securities shall be held in the name of SFCWA and shall designate the Contractor as the beneficial owner.

Securities eligible for deposit with the Escrow Agent shall be limited to those specified in § 16430 of the Government Code, bank or savings and loan certificates of deposit, interest-bearing demand deposits, or any other security mutually agreed to by SFCWA and the Contractor.

(2) SFCWA shall make progress payments to the Contractor for those funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.

(3) When SFCWA makes payment of earned contract retentions directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until the time that the escrow created under this agreement is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when SFCWA pays the Escrow Agent directly.

(4) The Contractor shall be responsible for paying all fees for the expenses incurred by the Escrow Agent in administering the Escrow Account and all expenses of SFCWA. These expenses and payment terms shall be determined by SFCWA, the Contractor, and the Escrow Agent.

Escrow Agreement for Security Deposits in Lieu of Retention

(5) The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of the Contractor and shall be subject to withdrawal by the Contractor at any time and from time to time without notice to SFCWA.

(6) The Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to the Escrow Agent accompanied by written authorization from SFCWA to the Escrow Agent that SFCWA consents to the withdrawal of the amount sought to be withdrawn by the Contractor.

(7) SFCWA shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven days' written notice to the Escrow Agent from the owner of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by SFCWA.

(8) Upon receipt of written notification from SFCWA certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, the Escrow Agent shall release to the Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.

(9) The Escrow Agent shall rely on the written notifications from SFCWA and the Contractor pursuant to Paragraphs (5) to (8) , inclusive, of this agreement and SFCWA and the Contractor shall hold the Escrow Agent harmless from the Escrow Agent's release and disbursement of the securities and interest as set forth above.

(10) The Contractor, or a person authorized to execute contracts on behalf of the Contractor, and a person authorized to execute on behalf of the Escrow Agent shall sign three copies of the Escrow Agreement on behalf of the Escrow Agent and submit it to SFCWA. When approved and signed by SFCWA, one copy will be returned to the Contractor and one copy to the Escrow Agent.

(11) The names of the persons who are authorized to give written notice or to receive written notice on behalf of SFCWA and on behalf of the Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of SFCWA:

Name

Signature

Title

Address

On behalf of the Contractor:

Name

Signature

Title

Address

On behalf of the Escrow Agent:

Name

Signature

Title

Address

IN WITNESS WHEREOF, the parties have executed this Agreement in triplicate by their proper officers on the date indicated below.

SFCWA:

Name Signature

Title Date

Contractor

Name Signature

Title Date

Escrow Agent:

Name Signature

Title Date

END OF DOCUMENT

THIS PAGE INTENTIONALLY LEFT BLANK

DOCUMENT 00610
BOND FOR FAITHFUL PERFORMANCE

KNOW ALL PERSONS BY THESE PRESENTS:

That we, _____

(hereinafter "Contractor") as principal, and _____

as surety, a corporation duly organized under the laws of the State of _____ and duly authorized to conduct a surety business in California, are held and firmly bound unto State and Federal Contractors Water Agency (hereinafter "SFCWA"), in the sum of _____

dollars (\$ _____), lawful money of the United States of America, for the payment whereof the Contractor and the surety bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

The condition of the above obligation is such that:

WHEREAS, the Contractor has been awarded and is about to enter into the annexed contract with SFCWA for

and is required by SFCWA to give this bond in connection with the execution of this contract;

NOW, THEREFORE, the condition of the above obligation is such that if the Contractor shall well and truly do and perform all the undertakings, covenants, agreements, terms, and conditions of this contract on its part to be kept and performed during the original term of the contract and any extensions thereof that may be granted by SFCWA, with or without notice to the surety, and during the life of any guarantee or warranty required under the contract, and shall also well and truly keep and perform all the undertakings, covenants, agreements, terms, and conditions of any and all duly authorized modifications, alterations, changes, or additions to this contract that may hereafter be made, notice to the surety of such modifications, alterations, changes, or additions or partial or full release of retained sums to the Contractor being hereby waived, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

Whenever the Contractor is declared by SFCWA to be in default under the contract, and SFCWA has not terminated the performance of the Contractor or the authority of the Contractor to proceed with the work, the surety shall promptly cause the default to be remedied.

IN THE EVENT that the contract or any work thereunder is abandoned by the Contractor, or whenever under the provisions of this contract SFCWA terminates the performance of the Contractor or the authority of the Contractor to continue the work, the surety hereby further agrees that it shall, if requested in writing by SFCWA, promptly and expeditiously take such action as is necessary to complete this contract by engaging persons other than the Contractor, unless otherwise agreed by SFCWA in writing.

Bond for Faithful Performance

No right of action shall accrue on this bond to or for the use of any person or entity other than SFCWA, its successors or assigns.

EXECUTED on [date] _____

Approved:

Contractor

for GENERAL MANAGER
of
State and Federal
Contractors Water Agency

By _____

Title _____
(If the Contractor is a corporation, the Chairman of the Board, President or any Vice President shall sign above.)

By _____

Title _____

(If the Contractor is a corporation, the Secretary, any Assistant Secretary, Chief Financial Officer, or any Assistant Treasurer shall sign above.)

[SFCWA SEAL]

Approved as to form:

for GENERAL COUNSEL
of
State and Federal
Contractors Water Agency

Surety _____

Surety's bond number _____

Address _____

Telephone number _____

By _____

Title

[SURETY'S CORPORATE SEAL]

Note: Execute and submit this document and the attached acknowledgement in accordance with instructions in Document 00100, "Instructions to Bidders" and furnish an endorsed and executed Power of Attorney.

CONTRACTOR'S ACKNOWLEDGEMENT OF BOND FOR FAITHFUL PERFORMANCE

STATE OF CALIFORNIA)
)
COUNTY OF _____)

On **[date]** _____, before me, _____, Notary Public,
personally appeared _____, and _____,
(Name(s) of Signer(s))

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within Bond for Faithful Performance and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the Bond for Faithful Performance the person(s), or the entity upon behalf of which the person(s) acted, executed the Bond for Faithful Performance.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Seal)

Signature _____

(This page intentionally left blank.)

**ATTORNEY IN FACT'S ACKNOWLEDGEMENT OF
BOND FOR FAITHFUL PERFORMANCE**

STATE OF CALIFORNIA)
)
COUNTY OF _____)

On **[date]** _____, before me, _____, Notary Public,

personally appeared _____,
(Name of Signer)

who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within Bond for Faithful Performance and acknowledged to me that he/she executed the same in his/her authorized capacity as the attorney in fact, and that by his/her signature on the Bond for Faithful Performance the person, or the entity upon behalf of which the person acted, executed the Bond for Faithful Performance.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Seal)

Signature _____

THIS PAGE INTENTIONALLY LEFT BLANK

**DOCUMENT 00620
PAYMENT BOND**

KNOW ALL PERSONS BY THESE PRESENTS:

That we, _____

(hereinafter "Contractor") as principal, and _____

as surety, a corporation duly organized under the laws of the State of _____ and duly authorized to
conduct a surety business in California, are held and firmly bound unto State and Federal Contractors Water Agency
(hereinafter "SFCWA"), in the sum of _____
_____ dollars (\$ _____),

lawful money of the United States of America, for the payment of which sum, for the payment whereof the Contractor and the
surety bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

The condition of the above obligation is such that:

WHEREAS, the Contractor has been awarded and is about to enter into the annexed contract with SFCWA for

and is required by Title XV of Part IV of Division 3 of the Civil Code of the State of California to file with SFCWA this bond
in connection with the execution of this contract;

NOW, THEREFORE, if the Contractor in this contract, or its subcontractors, fails to pay any of the persons named in
§ 3181 of the Civil Code of the State of California, or amounts due under the unemployment insurance code with respect to
work or labor performed by any such claimant, the surety will pay for the same, in an amount not exceeding the sum specified
above, and also, in case suit is brought upon this bond, a reasonable attorney's fee, to be fixed by the court. This bond shall
inure to the benefit of any of the persons named in § 3181 of the Civil Code of the State of California.

Payment Bond

EXECUTED on [date] _____

Approved:

_____ Contractor

By _____

for GENERAL MANAGER
of
State and Federal
Contractors Water Agency

Title _____

(If the Contractor is a corporation, the Chairman of the Board,
President or any Vice President shall sign above.)

By _____

Title _____

(If the Contractor is a corporation, the Secretary, any
Assistant Secretary, Chief Financial Officer, or any Assistant
Treasurer shall sign above.)

[SFCWA SEAL]

Approved as to form

Surety _____

for GENERAL COUNSEL
of
State and Federal Contractors Water Agency

Surety's bond number _____

Address _____

Telephone number _____

By _____

[SURETY'S CORPORATE SEAL]

Title

Note: Execute and submit this document and the attached acknowledgment in accordance with instructions in Document 00100, "Instructions to Bidders" and furnish an endorsed and executed Power of Attorney.

CONTRACTOR'S ACKNOWLEDGEMENT OF PAYMENT BOND

STATE OF CALIFORNIA)
)
COUNTY OF _____)

On **[date]** _____, before me, _____, Notary Public,
personally appeared _____, and _____,
(Name(s) of Signer(s))

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within Payment Bond and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the Payment Bond the person(s), or the entity upon behalf of which the person(s) acted, executed the Payment Bond.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Seal)

Signature _____

**ATTORNEY IN FACT'S ACKNOWLEDGEMENT OF
PAYMENT BOND**

STATE OF CALIFORNIA)
)
COUNTY OF _____)

On **[date]** _____, before me, _____, Notary Public,

personally appeared _____,
(Name of Signer)

who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within Payment Bond and acknowledged to me that he/she executed the same in his/her authorized capacity as the attorney in fact, and that by his/her signature on the Payment Bond the person, or the entity upon behalf of which the person acted, executed the Payment Bond.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Seal)

Signature _____

DOCUMENT 00660
WORKERS' COMPENSATION INSURANCE CERTIFICATION

(AS REQUIRED BY § 1861
OF THE CALIFORNIA LABOR CODE)

I am aware of the provisions of § 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

Contractor

By: _____ By: _____

Title: _____ Title: _____

(If the Contractor is a corporation, the Chairman of the Board, President, or any Vice President shall sign above.)

(If the Contractor is a corporation, the Secretary, any Assistant Secretary, Chief Financial Officer, or any Assistant Treasurer shall sign above.)

THIS PAGE INTENTIONALLY LEFT BLANK

DOCUMENT 00700
GENERAL CONDITIONS

1. Definitions. — (a) Whenever the words defined in this article, or pronouns used in their stead, occur in the specifications or in any of the other contract documents they shall have the meanings here given:

(1) The word OWNER or SFCWA shall mean the State & Federal Contractors Water Agency of California.

(2) The words BOARD OF DIRECTORS or the word BOARD shall mean the Board of Directors of SFCWA.

(3) The words GENERAL MANAGER shall mean the chief executive officer of SFCWA or his authorized representatives acting within the limits of their authority.

(4) The word ENGINEER shall mean the GENERAL MANAGER or his authorized representatives acting within the limits of their authority.

(5) The word CONTRACTOR shall mean the party of the second part entering into contract with SFCWA for the performance of work required by these Contract Documents, and the legal representatives of said party, or the agent appointed to act for said party in the performance of the work. Said party is referred to throughout the contract documents as if of the singular number and the masculine gender.

(6) The word SUBCONTRACTOR shall mean any person, firm, or corporation who will perform work or labor or render service to the Contractor in or about the work, or any person, firm, or corporation licensed by the State of California who, under contract to the Contractor, specially fabricates and installs a portion of the work according to the details contained in the drawings and specifications.

(7) The word TON shall mean the short ton of 2,000 pounds.

(8) The word DAYS shall mean calendar days, unless otherwise stated.

(9) The words ACT OF GOD shall only mean a tidal wave or an earthquake greater than 3.5 on the Richter Scale.

(10) The word INCLUDE in all its forms shall mean the containment of something as a subordinate part of a larger whole, or not limited to the inclusion, unless otherwise stated.

(11) The word CONTRACT shall mean the Notice Inviting Bids, the Instructions to Bidders, Small/Disabled Veteran Business Enterprise Program, the Bid Proposal, the General Conditions, the project specifications, the drawings, and supplements and addenda to these documents, together with the Agreement.

(12) The word WORK shall mean the entire completed construction required to be furnished under the contract documents. Work is the result of performing services, furnishing labor, and furnishing and incorporating materials and equipment into the construction, all as required by the contract documents.

(b) Wherever in the specifications or upon the drawings, the words DIRECTED, REQUIRED, PERMITTED, ORDERED, DESIGNATED, PRESCRIBED, or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer is intended, and similarly, words APPROVED, ACCEPTABLE, SATISFACTORY, or words of like import, shall mean approved, acceptable, or satisfactory to the Engineer, unless otherwise expressly stated.

(c) The figures given in the specifications or upon the drawings after the word ELEVATION or its abbreviation shall mean distances in feet above the project datum, as established by the Engineer.

2. Contract Documents Complementary. — The contract documents are complementary, and what is called for in any one shall be as binding as if called for in all. The intention of the documents is to require a finished piece of work, with the exception of such items definitely stipulated in the project specifications or the drawings to be furnished by SFCWA. Anything shown on the drawings and not in the project specifications or in the project specifications and not on the drawings, or neither on the drawings nor in the project specifications but necessary to properly complete the work in accordance with the applicable law and governmental regulations, shall be performed by the Contractor as though shown in both the drawings and the project specifications. The drawings shall govern over the General Conditions; the project specifications shall govern over the General Conditions and the drawings. Work described in words which so applied have a well-known technical or trade meaning shall be held to carry such meaning.

3. Time and Order of Work. — (a) The Contractor shall at all times employ work forces, plant, materials, equipment, and tools sufficient to prosecute the work at not less than the rates fixed under the terms of the Contract and to complete the work or any separable portion thereof within the time limits therein fixed. If the Contractor fails to employ work forces, plant, materials, equipment, and tools to maintain required progress, he may, after such failure, be required to increase his progress at any point or points or to modify his plans and procedure in such manner and to such extent as the Engineer may direct. In case of an adjustment

by the Engineer of the time for the completion of the Contract, as hereinafter provided, a revised schedule of progress may be prescribed in accordance with such adjustment of time.

(b) The time in which the various portions and the whole of the Contract are to be performed and the work is to be completed is the essence of the Contract.

4. Assignment Forbidden. — The Contractor shall not assign, transfer, convey, sublet, or otherwise dispose of this Contract, or of his right, title or interest in, or to the same or any part thereof, without the previous consent in writing of the Engineer; and he shall not assign, by power of attorney or otherwise, any of the moneys to become due and payable under the Contract, unless by and with the like consent signified in like manner. If the Contractor shall, without such previous consent, assign, transfer, convey, sublet, or otherwise dispose of the Contract, or of his right, title or interest therein, or of any of the moneys to become due under the Contract, to any other person, company, or other corporation, the Contract may, at the option of SFCWA, be terminated, revoked, or annulled, and SFCWA shall thereupon be relieved and discharged from any and all liability and obligations growing out of the same to the Contractor, and to his assignee or transferee. No right under the Contract, nor any right to any money to become due hereunder, shall be asserted against SFCWA in law or equity by reason of any so-called assignment of the Contract, or any part thereof, or by reason of the assignment of any moneys to become due hereunder, unless authorized as aforesaid by the written consent of the Engineer.

5. Subcontracts. — (a) At the discretion of the Engineer, and subject to the provisions of Paragraph (b), hereof, subcontracts may be permitted to such extent, and only to such extent, as shall be shown to be necessary or definitely advantageous to the principal Contractor in the prosecution of the work, and without injury to the interests of SFCWA. The resubletting of work by a subcontractor shall be subject to the same limitations as an original subletting. No subcontract will be permitted which has the effect of avoiding the residence or wage requirements or any other provisions of the main Contract. Individual subcontractors, or members of contracting or subcontracting organizations, personally engaged upon the work, shall be subject to all the requirements of Articles 43 to 46, inclusive, 51, and 52, hereof, and to all other conditions of the specifications applicable to employees working for wages.

(b) Reference is hereby made to the provisions of Chapter 4 of Part 1, Division 2 of the Public Contract Code of the State of California, beginning at Section 4100. As required by the provisions of said Chapter 4, each bidder shall set forth in his proposal the name and location of the place of business, and the California contractor license number of each subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the work or improvement in an amount in excess of one-half ($\frac{1}{2}$) of one percent (1%) of the Contractor's total bid, and the portion of the work which will be done by each subcontractor. The Contractor shall list only one subcontractor for each portion as is defined by the Contractor in his bid. If the Contractor fails to specify a subcontractor or if the Contractor specifies more than one subcontractor for the same portion of work to be performed under the Contract in excess of one-half ($\frac{1}{2}$) of one percent (1%) of the Contractor's total bid, he agrees that he is fully qualified to perform that portion himself, and that he shall perform that portion himself. The attention of the bidder is directed to the provisions of said Chapter 4, and the penalties therein provided. SFCWA's acceptance of his bid shall not constitute authority to the Contractor to sublet or subcontract any of the work to any subcontractor so named in the proposal. Permission to subcontract any portion of the work to any subcontractor so named in the proposal shall be within the discretion of the Engineer, as provided in Paragraph (a), hereof.

(c) The Engineer reserves the right to order the Contractor to dismiss any subcontractor and to terminate any subcontract if, in the Engineer's opinion, the subcontractor fails to comply with the requirements of this Contract insofar as the same may be applicable to his work. Nothing herein contained shall create any contractual relation between any subcontractor and SFCWA or relieve the Contractor of any liability or obligation hereunder. No subcontractor will be recognized as such, and all persons engaged in the work of construction will be considered as employees of the Contractor and he shall be responsible for their work.

6. Notice to Discontinue Work under Contract. — (a) If the work to be done under the Contract shall be abandoned by the Contractor, or if the Contractor shall make a general assignment for the benefit of his creditors or be adjudicated a bankrupt, or if a receiver of his property or business be appointed by a court of competent jurisdiction, or if this Contract shall be assigned by him otherwise than as hereinbefore specified, or if at any time the Engineer shall be of the opinion that the performance of the Contract is unnecessarily or unreasonably delayed, or if the Contractor disregards laws or regulations of any public body having jurisdiction, or if the Contractor disregards the authority of the Engineer, or if the Contractor otherwise substantially violates provisions of the contract documents, or if the work be not fully completed within the time named in the Contract for its completion, or within the time to which the completion of the Contract may have been adjusted, as hereinafter provided, or if the work has been damaged by an Act of God, the Engineer, acting on behalf of SFCWA, may, by written notice, instruct the Contractor to discontinue all work, or any part thereof, under this Contract.

(b) When such written notice to discontinue work is served upon the Contractor as hereinafter provided in Article 7, in any case other than when the work has been damaged by an Act of God, SFCWA may take charge of the work and complete it by a new contract or by force account. In so doing, SFCWA may take possession of and use any of the materials, plant, tools, equipment, supplies, and property of every kind provided by the Contractor for the purposes of his work. SFCWA may procure other materials

and provide labor for the completion of the same, or contract therefor, and charge the expense of completion by either method to the Contractor. These charges shall be deducted from such moneys as may be due or may at any time hereafter become due the Contractor under and by virtue of this Contract, or any part thereof. In case such expense shall exceed the amount which would have been due the Contractor under the Contract if the same had been completed by him, he shall pay the amount of such excess to SFCWA; and in case such expense shall be less than the amount which would have been payable under this Contract if the same had been completed by the Contractor, he shall have no claim to the difference except to such extent as may be necessary, in the opinion of the Engineer, to reimburse the Contractor or the Contractor's sureties for any expense properly incurred for plant, camp, equipment, materials, supplies, and labor devoted to the prosecution of the work, of which SFCWA shall have received the benefit and which shall not have been otherwise paid for by SFCWA. In computing such expense, so far as it shall relate to plant and equipment taken over by SFCWA, the salvage value of such plant and equipment, at completion of the work, shall be deducted from the depreciated value thereof at the time taken over by SFCWA, and the difference shall be considered as an expense. Evidence of such expense, satisfactory to the Engineer, shall be required and all necessary estimates and appraisements shall be made by him. When any particular part of the work is being carried on by SFCWA, by contract or otherwise, under the provisions of this article, the Contractor shall continue the remainder of the work in conformity with the terms of this Contract, and in such manner as to nowise hinder or interfere with the persons or workers employed, as above provided, by SFCWA, by contract or otherwise, to do any part of the work, or to complete the same under the provisions of this article.

7. Legal Address of Contractor. — (a) The address given in the Contractor's proposal on which the Contract is founded is hereby designated as the place to which all notices, letters, and other communications to the Contractor shall be mailed or delivered. The delivering at the above-named place or the depositing in a post-paid wrapper, directed to the above place, in any post office mail box regularly maintained by the post office, of any notice, letter, or other communication to the Contractor, shall be deemed sufficient service thereof upon the Contractor and the date of said service shall be the date of such delivery or mailing. Such address may be changed at any time by a written notice signed by the Contractor and delivered to the Engineer.

(b) Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon the Contractor personally.

8. Additional Surety. — If, during the continuance of the Contract, any of the sureties upon the faithful performance bond, in the opinion of the Engineer, are or become insufficient, he may require additional sufficient sureties which the Contractor shall furnish to the satisfaction of the Engineer within 15 calendar days after written notice, and in default thereof the Contract may be suspended and the work completed as provided in Article 6, hereof.

9. Authority of the Engineer. — The Engineer shall be responsible for monitoring the Contractor's compliance with the Contract, shall determine the amount, quality, and acceptability of the work, and the fitness of all labor, materials, or equipment which are to be paid for, shall determine all questions in relation to said labor, materials, or equipment, shall establish the reasonableness of allowances, and is SFCWA's representative at the first level of negotiations for settling protests filed under the provisions of Article 18. Any difference or conflict which may arise between the Contractor and other contractors of SFCWA in regard to their work shall be adjusted and determined by the Engineer.

10. Changes. — (a) If the Engineer finds it inadvisable to comply strictly with the specifications, the Engineer may prescribe a modification of requirements or of methods of work; and for such purposes the Engineer may at any time during the life of the Contract, by written order make such changes as he shall find necessary in the design, line, form, location, dimensions, plan, or material of any part of the work or equipment hereinafter specified, or in the quantity or character of the work or equipment to be furnished. If such changes increase or diminish the quantity or amount of work to be done, they shall not constitute the basis for a claim for damages or anticipated profits on the work that may be dispensed with; provided, that if such changes or alterations render useless any work already done or materials already furnished or used in the work, the Engineer shall make reasonable allowance therefor, which action shall be binding upon both parties.

(b) In the event of increasing or decreasing of work, the total amount of work actually done or materials or equipment furnished shall be paid for according to the unit price established for such work under the Contract, wherever such unit price has been established; provided, that an adjustment in compensation will be made for changes which require performance of extra work which increases or decreases the quantity of any unit price item of the work in such a manner as to materially increase or decrease its unit cost, as determined by the Engineer, or which for any other reason cannot in the judgment of the Engineer be equitably paid for at Contract price. In the event no prices are named in the Contract to cover increases in the work to be done, or a combination of increases and decreases in such work, the cost of such changes shall be covered as hereinafter provided for extra work.

(c) In the event a part of the work is to be entirely eliminated and no lump sum or unit price is named in the Contract to cover such eliminated work, the cost of the eliminated work will be agreed upon in writing by the Engineer and the Contractor. If after the expiration of a reasonable time, the Engineer and the Contractor fail to agree upon the cost of the eliminated work, the Engineer will unilaterally fix the cost of the eliminated work based upon his estimates of decreased labor and material costs to be incurred by the Contractor. Whether established by agreement of the parties or unilaterally by the Engineer, to the cost of the eliminated work will

be added the allowances for overhead and profit, in accordance with Paragraph 11(c). The sum of the cost of the eliminated work plus the allowance for overhead and the profit will be the amount to be deducted from the contract price as a credit to SFCWA for the eliminated work.

(d) The Contractor shall proceed to immediately revise his schedule to accommodate the changed work upon receipt of a written order to make the changes, notwithstanding the fact that an agreement has not been reached regarding the cost of the changes. The Contractor shall start and complete the changed work in accordance with the revised schedule. If in the opinion of the Engineer, the Contractor is not performing the changed work in accordance with the revised schedule, the Engineer may withhold certification of estimates for payment until such time that the Contractor does perform in accordance with the revised schedule. Within 20 working days after receipt of a written order to perform changes, the Contractor shall submit to the Engineer his claim for an extension of time and for the increased compensation which he considers necessary as a result of performing the changes; such claim shall contain an itemized cost breakdown of claimed increased compensation. If the Contractor fails to submit, in writing, his claims for increased compensation or extension of time within 20 working days after receipt of a written order to perform changes, the Engineer may make an equitable adjustment of the contract completion time and compensation based on his judgment of increases or decreases in costs or in time required to complete the Contract due to the changes.

(e) When required to perform and complete the changed work in accordance with the revised schedule, the Contractor shall provide additional labor, materials, equipment, or other factors of production in excess of those in use before the changed work was ordered. When the changed work is not the current controlling operation or does not comprise a part of such controlling operation, the additional factors of production provided by the Contractor for the purpose of performing changed work shall not be obtained by removing factors of production from any part of the current controlling operation of the Contract as a whole when such removal would delay the time of completing such current controlling operation.

11. Extra Work. — (a) If, during the performance of the Contract, it shall, in the opinion of the Engineer, become necessary or desirable for the proper completion of the Contract to order work done or materials or equipment furnished which, in the opinion of the Engineer, are not susceptible of classification under the unit-price items named in the Bidding Sheet, and are not included in any item for which a lump sum is bid, the Contractor shall do and perform such work and furnish such materials and equipment. Such labor, material, and equipment will be classed as extra work and shall be ordered in writing before such work is started. No extra work shall be paid for unless ordered in writing. All claims for extra work shall be submitted to SFCWA on standard forms provided by SFCWA, and shall be supplemented by such other data as the Engineer may require.

(b) Extra work and work involving a combination of increases and decreases in the work will ordinarily be paid for at a lump sum or unit price agreed upon in writing by the Engineer and Contractor before the extra work order is issued. In the negotiation of lump sum or unit prices, the agreed estimated cost of the work plus an allowance for overhead and profit, not to exceed the allowances in Paragraph 11(c), shall be used. In the event the Contractor fails to submit his proposal within the prescribed time, or the Engineer and the Contractor fail to agree upon a price or time adjustment, or both, within a reasonable time, or if in the judgment of the Engineer, it is impracticable because of the nature of the work or for any other reason to fix the price or to adjust the time for completion before the extra work order is issued, equitable payment for extra work and an equitable adjustment in the contract time for completion of the Contract, if justified, will be made by the Engineer on the basis of his estimate of increases or decreases in the Contractor's cost of the work due to changes, plus an allowance for overhead and profit in accordance with the schedule set forth in Paragraph 11(c), or at the option of the Engineer, payment may be made on the basis of cost-plus pursuant to Paragraph 11(c).

(c) Extra work and work involving a combination of increases and decreases in the work ordered on the basis of cost-plus will be paid for at the actual necessary cost as determined by the Engineer, plus allowances for overhead and profit. For work involving a combination of increases and decreases in the work the actual necessary cost will be the arithmetic sum of the additive and deductive costs. The allowance for overhead and profit shall include full compensation for superintendence, bond and insurance premiums, taxes (other than sales or use taxes includible in the cost of materials), office expense, and all other items of expense or cost not included in the cost of labor, materials, or equipment provided for under Paragraphs (d), (e), and (f), hereof. The allowance for overhead and profit will be made in accordance with the following schedule:

ACTUAL NECESSARY COST ALLOWANCE

Labor	20 percent
Materials	15 percent
Equipment	15 percent

The actual necessary cost for labor, materials, or equipment will be computed in accordance with Paragraphs (d), (e), and (f), respectively, hereof. Superintendence, bond and insurance premiums, taxes (other than sales or use taxes includible in the cost of materials), and other general expense will not be included in the computation of actual necessary cost. It is understood that labor, materials, and equipment may be furnished by the Contractor or by the subcontractor on behalf of the Contractor. When all or any part of the extra work is performed by a subcontractor, the allowance specified hereinbefore shall be applied to the labor, materials, and equipment costs of the subcontractor, to which the Contractor may add 5 percent of the subcontractor's total cost for the extra work. Regardless of the number of hierarchical tiers of subcontractors, the 5 percent increase above the subcontractor's total cost which includes the allowances for overhead and profit specified hereinbefore may be applied one time only for each separate extra work transaction. The Contractor shall furnish the Engineer daily report sheets covering the direct costs of labor and materials and charges for equipment, whether furnished by the Contractor, subcontractor, or other forces, and the report sheets shall be signed by the Contractor or his authorized agent. The daily report sheets shall provide names or identifications and classifications of workmen and hours worked; size, type, and identification number of equipment, and hours operated. Material charges shall be substantiated by valid copies of vendor's invoices. The Engineer will make any necessary adjustments and compile the costs of cost-plus work. When these reports are agreed upon and signed by both parties, they shall become the basis of payment for the work performed, but shall not preclude subsequent adjustment based on a later audit.

(d) Labor. The cost of labor used in performing the work by the Contractor, a subcontractor, or other forces will be the sum of the following:

(1) The actual wages paid plus any employer payments to, or on behalf of workers for fringe benefits including health and welfare, pension, vacation, and similar purposes. The cost of labor may include the wages paid to foremen when determined by the Engineer that the services of foremen do not constitute a part of the overhead allowance.

(2) All payment imposed by state and federal laws including, but not limited to, compensation insurance, and social security payments.

(3) The amount paid for subsistence and travel required by collective bargaining agreements, or in accordance with the regular practice of the employer.

At the beginning of the Contract and as later requested by the Engineer, the Contractor shall furnish the Engineer proof of labor compensation rates being paid or paid.

(e) Materials. — The cost of materials used in performing the work will be the cost to the purchaser, whether Contractor, subcontractor, or other forces, from the supplier thereof, inclusive of sales or use taxes, except as the following are applicable:

(1) Cash or trade discounts available to the purchaser shall be credited to SFCWA notwithstanding the fact that such discounts may not have been taken by the Contractor.

(2) In materials secured by other than a direct purchase and direct billing to the purchaser, the cost shall be deemed to be the price paid to the actual supplier as determined by the Engineer. Markup, except for actual costs incurred in the handling of such materials, will not be allowed.

(3) Payment for materials from sources owned wholly or in part by the purchaser shall not exceed the price paid by the purchaser for similar materials from said sources on contract items or the current wholesale price for such materials delivered to the jobsite, whichever price is lower

(4) If in the opinion of the Engineer the cost of materials is excessive, or the Contractor does not furnish satisfactory evidence of the cost of such materials, then the cost shall be deemed to be the lowest current wholesale price for the quantity concerned delivered to the jobsite less cash or trade discount. SFCWA reserves the right to furnish materials for the work and no claim shall be made by the Contractor for costs and profit on such materials.

(f) Equipment. — The Contractor will be paid for the use of equipment at the rental rates identified for such equipment in the edition of the State of California Department of Transportation (Caltrans) publication "Labor Surcharge & Equipment Rental Rates" as supplemented by the Caltrans "Miscellaneous Equipment Rental Rates" publication in effect on the date the work is performed. If that equipment is not listed in either Caltrans publication, the U.S. Army Corps of Engineers publication "Construction Equipment Ownership and Operating Expense Schedule" in effect on the date the work is performed shall be used to determine the rental rate.

General Conditions

(1) The equipment rates paid, as above provided, shall include the cost of fuel, oil, lubrication supplies, small tools, necessary attachments, repairs and maintenance of all kinds, depreciation, storage, insurance, and all incidentals. Operators of equipment will be separately paid for as provided in Paragraph 11(d).

(2) All equipment shall, in the opinion of the Engineer, be in good working condition and suitable for the purpose for which the equipment is to be used.

(3) Before construction equipment is used on the work, the Contractor shall plainly stencil or stamp an identifying number thereon at a conspicuous location, and shall furnish to the Engineer, in duplicate, a description of the equipment and its identifying number.

(4) Unless otherwise specified, manufacturer's ratings and manufacturer approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

(5) Individual pieces of equipment or tools having a replacement value of \$500 or less, whether or not consumed by use, shall be considered to be small tools and no separate payment will be made therefor.

(6) Rental time will not be allowed while equipment is inoperative due to breakdowns.

(7) If the equipment is idle, either the appropriate Caltrans right-of-way delay factor or the Army Corps of Engineers' stand-by rate shall be used.

(g) Equipment on the work. — The rental time to be paid for equipment on the work shall be the time the equipment is in productive operation on the extra work being performed and, in addition, shall include the time required to move the equipment to the location of the extra work and return it to the original location or to another location requiring no more time than that required to return it to its original location, except that moving time will not be paid for if the equipment is used at the site of the extra work on other than the extra work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power, except that no payment will be made for loading and transportation costs when the equipment is used at the site of the extra on other than the extra work. The following shall be used in computing the rental time of equipment on the work:

(1) When hourly rates are listed, any part of an hour less than 30 minutes of operation shall be considered to be 1/2-hour of operation, and any part of an hour in excess of 30 minutes will be considered 1 hour of operation.

(2) When daily rates are listed, any part of a day less than 4 hours of operation shall be considered to be 1/2-day of operation. When owner-operated equipment is used to perform extra work to be paid for on a cost-plus basis, the Contractor will be paid for the equipment and operator, as follows:

(i) Payment for the equipment will be made in accordance with the provisions in Paragraph 11(f).

(ii) Payment for the cost of labor and subsistence or travel allowance will be made at the rates paid by the Contractor to other workers operating similar equipment already on the project, or in the absence of such labor established by collective bargaining agreements for the type of workmen and location of the work, whether or not the operator is actually covered by such an agreement. A labor surcharge will be added to the cost of labor described herein in accordance with the provisions of Paragraph 11(d), which surcharge shall constitute full compensation for payments imposed by state and federal laws and all other payments made to or on behalf of workers other than actual wages.

(iii) To the direct cost of equipment rental and labor, computed as provided herein, will be added the allowances for equipment rental and labor as provided in Paragraph 11(c).

(h) Special services. — Special extra work or services are defined as that extra work characterized by extraordinary complexity, sophistication or innovation, or a combination of the foregoing attributes which are unique to the construction industry. The following may be considered by the Engineer in making estimates for payment for special services:

(1) When the Engineer determines that a special service or extra work is required which cannot be performed by the forces of the Contractor or those of any of his subcontractors, the special service or extra work may be performed by an entity especially skilled in the work to be performed. After validation of invoices and determination of market values by the Engineer, invoices for special services or extra work based upon the current fair market value thereof may be accepted without complete itemization of labor, material, and equipment rental costs.

(2) When the itemization of labor, material, and equipment rental costs is impractical, or not in accordance with established billing practices of the special service industry involved, the Engineer may accept other evidence of the cost of special services in lieu of itemized invoices.

(3) When the Contractor is required to perform extra work necessitating special fabrication or machining process in a fabrication or a machine shop facility away from the jobsite, the charges for that portion of the extra work performed at the off-site facility may be accepted as a special service and accordingly, the invoices for the work may be accepted without detailed itemization.

(4) All invoices for special services will be adjusted by deducting all cash or trade discounts offered or available, whether the discounts were taken or not. In lieu of the allowances for overhead and profit specified in Paragraph 11(c), an allowance of 5 percent will be added to invoices for special services.

(i) When extra work ordered by the Engineer is performed by forces other than the Contractor's organization, the Contractor shall reach agreement with such other forces as to the distribution of the payment made by SFCWA for such work.

(j) All extra work performed hereunder shall be subject to all of the provisions of the Contract and the Contractor's sureties shall be bound with reference thereto as under the original contract.

12. Audit and Access to Records. — (a) For purposes of this article the word “record” means any form of communication or representation, including but not limited to letters, words, pictures, sounds, or symbols, or combinations thereof whether contained in handwritten, typewritten, printed, photocopied, photographed, or any form of electronic media, and every other means of recording upon any tangible thing.

(b) The Contractor shall maintain all records directly pertinent to the performance of the work under the Contract in accordance with generally accepted accounting principles and practices as applicable. The Contractor shall also maintain all records used in the preparation or support of any cost submissions, including the Contractor's original bid, extra work, change orders, claims, or other request for equitable adjustment.

(c) SFCWA has the right to conduct audits of books and records of the Contractor and subcontractors that relate to the project. The Engineer has the right to audit all costs and accounting information including, without limitation, books, documents, logs, and records (including electronic media) of the Contractor and its subcontractors relating to this Contract or to the construction of the project.

(d) Upon 24 hours advance, written notice, SFCWA shall have access to these records and all other evidence for the purpose of inspection, audit, and copying during normal business hours. The Contractor shall provide proper facilities for such access, inspection, and copying purposes.

(e) The Contractor agrees to make the provisions of this article applicable to the Contract and all extra work, change orders, claims, or other requests for equitable adjustment affecting the contract time or price or related to project performance in excess of \$10,000. The Contractor agrees to include the provisions of this article and to make them applicable to all subcontracts, of any tier.

(f) Records under the provisions of this article shall be maintained and made available during the performance of the work under the Contract until 3 years past final payment, or until final settlement of all disputes, claims, or litigation, whichever occurs later. In addition, records that relate to the Contract, claim, change order, dispute, litigation, or costs or items to which an audit exception has been taken shall be maintained and made available until final payment or final resolution of such dispute, litigation, claim, or exception, whichever occurs later.

(g) Access to records is not limited to the required retention periods. The authorized representatives of SFCWA shall have access to records at any reasonable time for as long as the records are maintained.

(h) The provisions of this article shall survive termination of the Contract.

13. Temporary Suspension of Work—Time of Completion. — (a) By written order to the Contractor, the Engineer may suspend the work wholly or in part, for an indefinite period or for such period as he may deem necessary, for any of the following reasons:

- (1) Weather conditions or other conditions which are unfavorable for the prosecution of the work;
- (2) Failure of the Contractor to carry out orders given or to perform any provisions of the Contract; and
- (3) The convenience and benefit of SFCWA.

Such suspension shall be effective upon receipt by the Contractor of the written order suspending the work and shall be terminated upon receipt by the Contractor of the written order terminating the suspension.

(i) If under authority of (1) or (3), above, the Engineer orders a suspension of all or a portion of the work which is the current controlling operation, the days on which the suspension is in effect shall not be considered working days, as defined

in Paragraph (b), hereof. If a portion of work so suspended is not the current controlling operation at the time of such suspension, but subsequently does become the current controlling operation, the days on which the suspension is in effect, after the date on which such portion of the work does become the current controlling operation, shall not be considered working days, as defined by Paragraph (b), hereof.

(ii) If a suspension of work is ordered by the Engineer under authority of (2), above, the days on which the suspension order is in effect shall be considered working days if such days are working days within the meaning of the definition set forth in Paragraph (b), hereof.

(iii) If the Contractor is delayed in completion of all work under the Contract or of any part of the work for which a time of completion or completion by a specified calendar date is required in the specifications by reason of changes made under Article 10, "Changes," or by failure of SFCWA to acquire or clear right-of-way, or by any act of the Engineer or of SFCWA, not contemplated by the Contract, an adjustment in the time of completion, as applicable, will be made by the Engineer in like manner as if the work had been suspended for the convenience and benefit of SFCWA, except, that if the work requirements are increased as a result of changes the Engineer, at his sole discretion, may grant an adjustment in the number of working days for completion of all or part of the contract work, as applicable. In the event of such delay, the Contractor shall notify the Engineer in writing of the causes of delay within 15 days from the beginning of any such delay. The Engineer shall ascertain the facts and the extent of the delay.

(b) Time of completion. — The Contractor shall complete all or any designated portion of the work called for under the Contract in all parts and requirements within the number of working days set forth in the specifications.

(1) A working day is defined as any day, except Saturdays, Sundays, the days considered as holidays in Section 01010, and days on which the Contractor is specifically required by the specifications to suspend construction operations, and except days on which the Contractor is prevented by inclement weather, or conditions resulting immediately therefrom, from proceeding with at least 75 percent of the normal labor and equipment force engaged on such operation or operations for at least 60 percent of the total daily time being currently spent on the controlling operation. In the event that a holiday specified above falls on a Saturday, then the Friday before the holiday will not be counted as a working day. In the event that a holiday specified above falls on Sunday, then the following Monday will not be counted as a working day.

(2) Should the Contractor prepare to begin work at the regular starting time at the beginning of any regular work shift on any day on which inclement weather, or the conditions resulting from the weather, or the condition of the work, prevents the work from beginning at the usual starting time and the crew is dismissed as a result thereof, or if, because of the inclement weather or conditions resulting immediately therefrom, the Contractor is prevented from proceeding with at least 75 percent of the normal labor and equipment force engaged in the current controlling operation for at least 60 percent of the total daily time being currently spent on the controlling operation, the Contractor will not be charged for a working day whether or not conditions change thereafter during said day and the major portion of the day could be considered to be suitable for such construction operations.

(3) "Current controlling operation" shall mean any feature or combination of features of the work, considered at the time by the Engineer, which, if delayed, will delay the time of completion of the Contract.

(4) Determination of each nonworking day, except Saturdays, Sundays, the days considered as holidays in Section 01010 and days on which the Contractor is specifically required by the specifications to suspend construction operations, shall be made and agreed upon during such day by conference between the Engineer and the Contractor. In the event of failure to agree, the Contractor will be allowed 15 days from the issuance of the monthly statement of working days in which to file a written protest setting forth in what respects he differs from the Engineer, otherwise, the decision of the Engineer shall be deemed to have been accepted by the Contractor as correct. The Engineer will furnish the Contractor a monthly statement showing the number of working days charged to the Contract for the preceding month, the number of working days of time adjustments being considered or approved, the number of working days originally specified for the completion of the Contract and the number of working days remaining to complete the Contract.

(5) If the contractor sustains actual and demonstrable delay in completion of work under the Contract due to Acts of God or of the public enemy, fire, floods, epidemics, quarantine restrictions, strikes, labor disputes, shortage of materials, sabotage and freight embargoes, and such delay renders the Contractor unable to complete the work within the time indicated in the specifications, then the Contractor shall be entitled to a day for day time extension. No such adjustment will be made unless the Contractor notifies the Engineer in writing of the causes of delay within 15 days from the beginning of any such delay. The Engineer shall ascertain the facts and the extent of the delay. The Contractor shall not receive compensation for its costs attributable to the delay. No adjustment in time shall be made for delays resulting from noncompliance with the Contract or for ordinary delays and accidents and the occurrence of such shall not relieve the Contractor from the necessity of maintaining the required progress.

(6) Notwithstanding the provisions of Paragraph (b) (5) of this Article 13, the Contractor shall not be entitled to a time extension for an activity for which a calendar date is indicated in the specifications.

(7) In the event the contract completion is delayed beyond the time named in the specifications by reason of shortages of materials, the Contractor shall be entitled to an adjustment in the time of completion at no additional cost to SFCWA. No such adjustment will be made unless the Contractor furnishes documentation acceptable to the Engineer that he placed or attempted to place firm orders with suppliers a reasonable time in advance of the required date of delivery of the materials in question, that such shortages shall have developed following the date such orders were placed or attempts made to place same, that said shortages are general throughout the affected industry, and that the Contractor shall, to the degree possible, have made revisions in the sequence of his operations, within the terms of the Contract, to offset the expected delay. The Contractor shall notify the Engineer, in writing, concerning the cause of delay, within 15 days of the beginning of such delay. The validity of any claim by the Contractor to an adjustment in the time of completion shall be determined by the Engineer, and his findings thereon shall be based on his own knowledge and observations of the events involved and documentation submitted by the Contractor, showing all applicable facts relative to the foregoing provisions. Only the physical shortage of material will be considered under these provisions as a cause for adjustment of time and no consideration will be given to any claim that material could not be obtained at a reasonable, practical, or economical cost or price, unless it is shown to the satisfaction of the Engineer that such material could have been obtained only at exorbitant prices entirely out of line with current rates taking into account the quantities involved and the usual practices in obtaining such quantities.

(c) Payment for delay. — The contract prices paid for the work shall include full compensation for all costs incurred by reason of any delay to the work, except as otherwise provided in this article. In the event of a delay caused by suspension of the work for the convenience and benefit of SFCWA, or by failure of SFCWA to furnish within contract time requirements, access to the work, right-of-way, utility relocations, drawings, materials, or equipment for which SFCWA is responsible under the Contract; and, provided that the Engineer is notified in accordance with Paragraph (a), hereof, the Contractor will be entitled to payment of the following costs, to the extent that no other contractor is liable therefor, and subject to the succeeding provisions:

(1) Those actual necessary costs of idle time of construction equipment, idle time of workers, moving of construction equipment, and hauling of materials and equipment which are incurred solely by reason of the delay and which could not have been avoided by the judicious handling of forces, construction equipment and plant, with allowance for overhead and profit as provided in Paragraph 11(c).

(2) Costs incurred, with the written approval of the Engineer, to mitigate the foregoing costs, with allowance for overhead and profit as provided in Paragraph 11(c).

The Contractor shall maintain complete and accurate daily records of all such costs, clearly distinguishing them from the costs of other portions of the work, and shall submit a detailed written report of such costs to the Engineer. In addition, the Contractor shall submit evidence of any cause of delay specified hereinabove, if he has not already done so pursuant to Paragraph (a), hereof. As soon as practicable, following receipt of such report and evidence, if required, the Engineer will determine the nature and extent of such costs and will, if he finds that payment is due, issue an extra work order therefor, subject to the provisions of Article 11. If the Engineer determines that payment is not due, he will so advise the Contractor in writing. Should the Contractor disagree with such finding, he may submit a notice of protest to the Engineer as provided in Article 18. The Contractor shall give the Engineer access to his daily cost records or certified copies thereof as requested. All such records shall be retained by the Contractor and open to inspection and audit by SFCWA and its authorized representatives. Except for the additional compensation provided hereinbefore, the Contractor shall have no claim for damage or compensation for any delay or hindrance whether or not contemplated by the Contract.

14. Termination of Contract for Convenience. — (a) SFCWA may, without cause and without prejudice to any other right or remedy of SFCWA, elect to terminate the Contract at any time. Upon receiving written notice of termination, Contractor shall immediately cease Contract work, except as otherwise specified in SFCWA's notice of termination. The Contractor shall have no claims against SFCWA except for:

(1) Completed and accepted work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such work;

(2) Expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment required by the Contract Documents in connection with uncompleted work, plus fair and reasonable sums for overhead and profit on such expenses; and

(3) Costs directly attributable to complying with the notice of termination.

(b) The Contractor shall not be paid on account of loss of anticipated or estimated profits or revenues or other economic loss arising out of or resulting from such termination.

15. Right-of-Way. — (a) The right-of-way for the works to be constructed under the specifications will be provided by SFCWA. Nothing herein contained, however, and nothing marked on the drawings, shall be interpreted as giving the Contractor exclusive occupancy of the territory provided. When two or more contracts are being executed at one time on the same or adjacent land in such manner that work on one contract may interfere with that on another, the Engineer shall decide which contractor shall cease work, and which shall continue, or whether the work on both contracts shall progress at the same time, and in what manner. When the territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of access or any other reasonable privilege may be granted by the Engineer to the contractor so desiring, to the extent, amount, in the manner, and at the times permitted. No such decision as to the method or time of conducting the work or the use of territory shall be made the basis of any claim for delay or damage, except as provided in Article 13, hereof.

(b) Lands to be furnished by SFCWA for camp sites, construction operations, concrete aggregate pits, roads, and other purposes will be specifically shown on the drawings or provided for in the specifications. Should the Contractor find it necessary to use any additional land for his camp or for other purposes during the construction of the work, he shall provide for the use of such lands at his own expense.

16. Obligations of Contractor. — The Contractor, at his own sole cost and expense, shall perform all labor and services and furnish all the materials, tools, and appliances, except as hereinafter otherwise definitely provided, necessary or proper for performing and completing the work required by the specifications, in the manner and within the time stipulated in the specifications. He shall furnish, erect, maintain, and remove the construction plant and such temporary works as may be required. If, at any time before the commencement or during the progress of the work or at any part of it, the Contractor's methods or appliances appear to the Engineer to be inefficient or inadequate for securing the quality of the work required or the rate of progress stipulated, he may order the Contractor to increase their efficiency or to improve their character, and the Contractor shall comply with such orders at his own expense; but neither the making of such demands nor the failure of the Engineer to make such demands shall relieve the Contractor of his obligation to secure the quality of work required and the rate of progress stipulated in the Contract. The Contractor alone shall be responsible for the efficiency and adequacy of his plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance, or operation. All labor and materials shall be performed and furnished strictly pursuant to, and in conformity with the General Conditions, the specifications, and the lines and grades and other directions of the Engineer as given from time to time during the progress of the work under the terms of the Contract, and also in accordance with the drawings and with work to be furnished from time to time as provided herein. The Contractor shall complete the entire work to the satisfaction of the Engineer, and in accordance with the specifications and drawings herein mentioned, at the prices fixed in the Contract. The amount of any applicable sale or use tax imposed by the State of California or any political subdivision or municipality thereof, shall be included in the prices named in the Bidding Sheet.

17. Personal Attention. — The Contractor shall give his personal attention constantly to the faithful prosecution of the work, and shall be present, either in person or by a duly authorized and competent representative, on the site of the work, continually during its progress, to receive direction or instructions from the Engineer. Whenever the Contractor is not present on any part of the work where it may be desired to give directions, orders may be given by the Engineer, and shall be received and obeyed by the superintendent or foremen who may have charge of the particular part of the work in reference to which orders are given.

18. Protest and Claims Procedure. — (a) Protest.— If the Contractor considers any work demanded to be outside the requirements of the Contract, or if the Contractor disagrees with any decision of the Engineer, the Contractor shall immediately, upon such work being demanded or such decision being made, submit a written protest to the Engineer and request confirmation of such demand or decision. The protest shall contain a brief description of the demand or decision, the name of the person making such demand or decision, and the date on which it was made. Failure to immediately protest and request such confirmation shall constitute a waiver of the Contractor's right to receive compensation or time extension for work performed under protest.

(b) Confirmation. — The Engineer will consider and investigate the protest and promptly respond in writing to confirm, rescind, or modify the demand or decision disputed by the Contractor.

(c) Performance of protested work. — Upon receipt of the written confirmation, the Contractor shall immediately proceed in accordance therewith. SFCWA will not be liable for additional costs incurred by the Contractor prior to receipt of the Engineer's written confirmation. Unless otherwise directed in writing by the Engineer, the Contractor shall furnish to the Engineer at the end of each day detailed hourly records for that day of labor, construction equipment and materials used in performance of work performed under protest for which additional compensation may be claimed.

(d) Submittal of claim. — (1) In order to preserve its right to pursue a remedy, the Contractor shall submit to the Engineer a notice of potential claim no later than 20 days after receipt of the Engineer's written confirmation; if the matter remains unresolved, the Contractor shall file a written claim no later than 25 days after submission of the notice of potential claim or the date the final payment is due under the contract, whichever is earlier.

(2) The notice of potential claim shall set forth the Contractor's factual or legal contentions upon which its objections to the Engineer's demand or decision are based; contain a description of the impacts to the Contractor's operations affected by the decision; and outline the general nature and extent of costs or delays involved.

(3) The claim shall set forth clearly and in detail each item of additional compensation or time adjustment claimed, the reasons for each item claimed, references to applicable provisions of the contract documents, and all other pertinent factual data necessary to evaluate the claim. The claim shall include copies of supporting documents necessary to substantiate the claim. Supporting data is subject to audit in accordance with Article 12. The Contractor shall certify under penalty of perjury that the information contained in the claim is true, that the supporting data is accurate and complete, and that the amount requested accurately reflects the contract adjustment for which SFCWA is responsible.

(4) The Contractor shall submit substantiation of actual costs when the work performed under protest is completed. Failure to submit substantiation will be sufficient cause to deny the claim.

(5) Orders or decisions of the Engineer that are protested by the Contractor shall be final and conclusive on the Contractor if the Contractor fails to submit a notice of potential claim and a claim in the manners and within the times stated above, and such failure shall constitute a waiver of the right to receive additional compensation or time extension for work performed under protest.

(e) Response to claim. — (1) The Engineer may request in writing, within 30 days of receipt of the claim, additional documentation supporting the claim or relating to defenses to the claim SFCWA may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to this paragraph, upon mutual agreement of the Engineer and the Contractor.

(2) For claims of less than \$50,000, the Engineer will respond in writing within 45 days of receipt of the claim, or within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

(3) For claims of over \$50,000, the Engineer will respond in writing within 60 days of receipt of the claim, or within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.

(f) Meet and confer. — (1) If the Contractor disputes the Engineer's response, or the Engineer fails to respond within the time prescribed, the Contractor may notify the Engineer, in writing, either within 15 days of receipt of the Engineer's response or within 15 days of the Engineer's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute.

(2) Upon a demand, the Engineer will schedule a meet and confer conference within 30 days for settlement of the dispute.

(3) Following the meet and confer conference, if the claim or any portion remains in dispute, the Contractor may file a claim pursuant to the Tort Claims Act of the Government Code. For purposes of those provisions, the period of time within which a claim must be filed shall not include the time the Contractor submits a written claim pursuant to Paragraph (d) through the time the claim is denied as a result of the meet and confer process.

(g) Claims less than \$375,000. — If the matter remains in dispute, this paragraph applies to the filing of a civil action for a claim of less than \$375,000.

(1) Within 30 to 60 days after the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall begin within 30 days of the submittal, and shall be concluded within 15 days from the start of the mediation unless a time requirement is extended by the court or by stipulation of both parties. If the parties fail to select a mediator within a 15-day period, any party may petition the court to appoint the mediator.

(2) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to § 1141.10 et seq. of the California Code of Civil Procedure. The Civil Discovery Act of 1986 shall apply to any proceeding brought under this paragraph.

(3) Arbitrators appointed shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division.

General Conditions

(4) Any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees provided under § 1141.10 et seq. of the California Code of Civil Procedure, pay the attorney's fees of the other party arising out of trial de novo.

(5) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

(6) In any suit filed under this paragraph, SFCWA will pay interest at the legal rate on any arbitration award or judgment. The interest will begin to accrue on the date the suit is filed in a court of law.

(h) Claims over \$375,000. — Unless otherwise mutually agreed upon by both parties, the procedures detailed in Paragraph (g) above shall not apply to claims over \$375,000 and the Contractor may file a civil action against SFCWA in accordance with applicable law and the terms of this Contract.

(i) Payment on undisputed portion of claims. — SFCWA will pay undisputed portions of claims, except as otherwise provided in the Contract.

(j) False claims. — Pursuant to Government Code § 12650 et seq., a person who commits any of the following acts shall be liable to SFCWA for 3 times the amount of damages that SFCWA sustains because of the act; and for a civil penalty in an amount up to \$10,000 for any false claim presented by the Contractor; and for the costs of a civil action brought to recover any of the penalties or damages.

(1) Knowingly presents or causes to be presented to an officer or employee of SFCWA a false claim for payment or approval.

(2) Knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by SFCWA.

(3) Conspires to defraud SFCWA by getting a false claim allowed or paid by SFCWA.

(4) Knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to pay or transmit money or property to SFCWA.

(5) Is a beneficiary of an inadvertent submission of a false claim to SFCWA, subsequently discovers the falsity of the claim, and fails to disclose the false claim to SFCWA within a reasonable time after discovery of the false claim.

(6) Any other act described in Government Code § 12651(a).

(k) Applicable law. — Legal action to enforce this Contract, or interpret any provision hereof, shall be brought in a court of the State of California.

19. Contractor's Responsibilities for Losses or Liabilities. — (a) Risk of loss. — Except as otherwise provided in the contract documents, the Contractor shall bear all losses resulting to him on account of the amount or character of the work, or from any unforeseen obstructions or difficulties which may be encountered, or from encumbrances on the line of the work, or because the nature of the ground in or on which the work is done is different from what is assumed, or on account of the weather, floods, Acts of God, or other causes; provided, however, that the Contractor shall not be responsible for the cost of repair or restoration of damage to the work caused by an Act of God in excess of 5 percent of the contract amount.

(b) Materials and facilities. — The Contractor shall be responsible for materials and facilities as hereinafter provided and in the event of his failure to carry out said responsibilities, the same may be carried out by SFCWA at the expense of the Contractor.

(1) The Contractor shall be responsible for any material furnished him and for the care of all work until its completion and final acceptance, and he shall at his own expense replace damaged or lost material and repair damaged parts of the work.

(2) The Contractor shall protect SFCWA facilities from damage resulting from his work. SFCWA facilities damaged by or as a result of the Contractor's work under this Contract shall be repaired or replaced, as directed by the Engineer, at the Contractor's expense.

(3) The Contractor shall remove from the vicinity of the completed work all plant, buildings, rubbish, unused materials, and supplies belonging to him or used under his direction during construction and in the event of his failure to do so, the same may be removed by SFCWA at the expense of the Contractor and sold by SFCWA in the manner provided for sale upon execution in Sections 691-699 inclusive of the California Code of Civil Procedure; provided, however, that SFCWA may bid at such sale.

(c) If the Contractor discovers any discrepancy or inconsistency in this Contract, or in the drawings or specifications herein referred to, in relation to any law or regulation, he shall report it in writing to the Engineer.

(d) Upon the receipt of any third-party claims relating to the contract, SFCWA will provide timely notification to the Contractor of the claim. SFCWA will be entitled to recover its reasonable costs incurred in providing the notification.

(e) Duty to defend. — Notwithstanding assertions that SFCWA, the Board, any member of the Board, or SFCWA's officers, agents, or employees may have been solely negligent, the Contractor shall assume the defense of SFCWA, the Board, each member of the Board, and SFCWA's officers, agents, and employees from all claims of any kind arising directly or indirectly out of the performance of the work.

(f) Indemnity. — The Contractor shall indemnify and save harmless SFCWA, the Board, each member of the Board, and SFCWA's officers, agents, and employees, from all liability and claims of any kind which may arise from or in connection with the performance of the work and the results of that work by the Contractor, its agents, representatives, employees, or subcontractors, including but not limited to:

(1) Liability or claims resulting directly or indirectly from the negligence or carelessness of the Contractor or its agents, representatives, employees or subcontractors in the performance of the work, or in guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the Contractor or its agents, representatives, employees or subcontractors;

(2) Liability or claims arising directly or indirectly from or based on the violation of any law, ordinance, regulation, order, or decree, whether by the Contractor or its agents, representatives, employees or subcontractors;

(3) Liability or claims arising directly or indirectly from the use or manufacture by the Contractor, its agents, representatives, employees, subcontractors, or SFCWA in the performance of this Contract of any copyrighted, or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliance, unless otherwise specifically stipulated in this Contract;

(4) Liability or claims arising directly or indirectly from the breach of warranties, whether expressed or implied, made to SFCWA or any other parties by the Contractor or its agents, representatives, employees or subcontractors;

(5) Liabilities or claims arising directly or indirectly from the willful misconduct of the Contractor or its agents, representatives, employees or subcontractors; and

(6) Liabilities or claims arising directly or indirectly from any breach of the obligations assumed herein by the Contractor.

(g) Said duty to indemnify shall not be affected or in any way diminished by the fact that SFCWA, the Board, any member of the Board, or SFCWA's officers, agents, or employees may have jointly caused or contributed to the liability or claim by their acts, omissions, conduct or negligence; provided, however, that nothing herein shall require the Contractor to indemnify SFCWA, the Board, any member of the Board or SFCWA's officers, agents, or employees for liability resulting from their active negligence.

(h) Costs. — The Contractor shall reimburse SFCWA for all costs and expenses, including attorney's fees, incurred by SFCWA in enforcing the provisions of this article.

20. Contractor to Furnish Information. — Before proceeding with the erection of construction plant, including sheeting, bracing, and other temporary structures, the Contractor shall furnish the Engineer with information and drawings of all such structures as may be required. Drawings and prints in such detail as may be required, of articles, machinery, or fabricated materials entering into permanent construction, which are by these specifications required to be furnished by the Contractor and of which detailed drawings are not furnished by SFCWA, shall be submitted by the Contractor for approval and shall become the property of SFCWA. Such approval shall not, however, operate to waive or modify any provision or requirement contained in the specifications.

21. (Not used)

22. Specifications and Drawings. — The Contractor shall keep at the jobsite a set of the latest revised drawings and a copy of the specifications containing all addenda, and shall at all times give the Engineer access thereto. The Contractor shall check all dimensions and quantities on the drawings or schedules therein contained or given to him by the Engineer, and shall notify the Engineer of all errors therein which may be discovered by examining and checking the drawings. He shall not take advantage of any error or omission in the specifications, or in the drawings or schedules, as full instructions will be furnished by the Engineer should such error or omission be discovered, and the Contractor shall carry out such instructions as if originally specified.

23. Materials, Workmanship, and Tests. — The Contractor shall submit samples, specimens, or test pieces of such materials to be furnished or used in the work as the Engineer may require. All materials must be of the specified quality and equal to approved samples, if samples have been submitted. All work shall be done and completed in a thorough, workmanlike manner, notwithstanding any omission from the specifications or the drawings. The Contractor shall furnish such quantities of concrete, concrete aggregates, and other construction materials as may be required for test purposes, and shall place at the Engineer's disposal

all available facilities for and cooperate with him in the sampling and testing of all materials and workmanship, all without cost to SFCWA.

24. Inspection. — All materials furnished and all work done under the specifications shall be subject to rigid inspection. Work done in the absence of prescribed inspection may be required to be torn out and replaced under the proper inspection, and the entire cost of tearing out and replacing, including the cost of all materials furnished by SFCWA and used in the work torn out, shall be borne by the Contractor, irrespective of whether the work torn out is found to be defective or not. Work covered up without the authority of the Engineer shall, upon order of the Engineer, be uncovered to the extent required, and the Contractor shall bear the entire cost of performing all the work and furnishing all the materials necessary for the removal of the covering and its subsequent replacement, as directed and approved by the Engineer. Whenever the Contractor arranges to work at night or at any time when work is not usually in progress, or to vary the period during which work is carried on each day, he shall give the Engineer at least 4 hours advance notice so that inspection may be provided. Such work shall be done without extra compensation.

25. Examination of Work. — The Contractor shall furnish the Engineer every reasonable facility for ascertaining whether the work is in accordance with the requirements and intention of the specifications even to the extent of uncovering or taking down portions of finished work which have been previously inspected or authorized to be covered. Should such previously inspected work thus exposed or examined prove satisfactory, the uncovering or taking down and the replacing of the covering or the making good of the parts removed, will be paid for at the contract prices for the kind of work done, or as extra work, as determined by the Engineer, but should work exposed or examined prove unsatisfactory, the uncovering, taking down, replacing, and making good shall be at the expense of the Contractor, and he shall be charged with the cost to SFCWA of materials furnished by SFCWA for the unsatisfactory work and its replacement in excess of the requirements for satisfactory original construction.

26. Defective Work or Material. — (a) The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his Contract as herein prescribed, and defective work shall be made good, and unsuitable materials may be rejected, notwithstanding that such work and materials have been previously overlooked by the Engineer and accepted or estimated for payment. If the work, or any part thereof, shall be found defective at any time before the final acceptance of the whole work, the Contractor shall forthwith make good such defect without compensation in a manner satisfactory to the Engineer, and shall be charged as provided in the preceding article for any excess material furnished by SFCWA; provided, that in the event the Engineer finds the said defect necessitating the repairs or removal of a completed work is due to the use of materials furnished by SFCWA which were when incorporated in the work, or have since become, unsatisfactory or unsuitable from causes for which the Contractor is not responsible, then SFCWA will pay under applicable contract items or as extra work for the placing, tearing out, removing from the vicinity, and replacing of such defective work or for its repair as ordered, and shall furnish without charge satisfactory material to replace that previously furnished by SFCWA.

(b) If any material furnished and brought to the jobsite by the Contractor for use in the work, or selected for the same by him, is condemned by the Engineer as unsuitable or not in conformity with the specifications, the Contractor shall forthwith remove and discard such material to a satisfactory distance from the vicinity of work.

(c) If the Contractor shall fail or neglect to make ordered repairs of defective work or to remove condemned materials from the work within 10 days after the service by the Engineer of an order to do such repair work or remove such materials, the Engineer, acting on behalf of SFCWA, may make the ordered repairs or remove the condemned materials and deduct the cost thereof from any money due the Contractor.

27. Right of Property in Materials. — Nothing in this Contract shall be considered as vesting in the Contractor any right of property in materials used, after they have been attached or affixed to the work or the soil, but all such materials shall, upon being so attached or affixed, become the property of SFCWA.

28. Title to Materials Found on the Work. — The title to water and to the right to the use of all water, soil, stone, gravel, sand, minerals, and all other materials developed or obtained in the excavation or other operations by the Contractor or any subcontractor or any of their employees, and the right to use or dispose of the same, are hereby expressly reserved in SFCWA and neither the Contractor, nor any subcontractor, nor any of their employees shall have any right, title, or interest in or to any part thereof; neither shall they, nor any of them, assert or make any claim thereto. The Contractor may be permitted to use in the work without charge any such materials which meet the requirements of the specifications.

29. Access to Work. — The Board and the Engineer, his assistants, inspectors, agents, and other employees, shall at all times and for any purpose have access to the work and the premises used by the Contractor, who shall provide safe and proper facilities therefor. Furthermore, the Board and the Engineer, his assistants, inspectors, and agents shall, at all times, have immediate access to all places of manufacture where machinery or materials are being manufactured, produced, or fabricated for use under the specifications, and shall have full facilities for determining that all such machinery or materials are being made strictly in accordance with the specifications and drawings. The Contractor shall, whenever so requested, give the Engineer access to the proper invoices, bills of lading, etc., and shall provide scales and assistance for weighing or assistance for measuring any of the materials.

30. Liquidated Damages. — It is agreed by the parties to the Contract that in case all the work called for under the Contract in all parts and requirements is not finished or completed within the number of working days as set forth in the specifications, damage will be sustained by SFCWA, and that it is and will be impracticable and extremely difficult to ascertain and determine the actual damage which SFCWA will sustain in the event of and by reason of such delay; and it is therefor agreed that the Contractor will pay to SFCWA the sum set forth in the specifications per day for each and every calendar day's delay in finishing the work in excess of the number of working days prescribed; and the Contractor agrees to pay said liquidated damages herein agreed upon, and further agrees that SFCWA may deduct the amount thereof from any money due or that may become due to the Contractor under the Contract. The Contractor will not be assessed liquidated damages for delay in finishing the work to the extent such delay is caused by the failure of SFCWA or the owner of a utility facility to provide the removal or relocation of an existing facility.

31. Patents and Copyrights. — The Contractor shall hold and save SFCWA and the Board, its officers, agents, and employees, harmless from liability of any nature and kind, including costs and expenses, for or on account of any use of copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliance, manufactured, furnished, or used by him in the performance of this Contract, including its use by SFCWA, unless otherwise specifically stipulated in this Contract.

32. No Payment for Temporary or Preliminary Works. — No direct payment will be made to the Contractor for providing transportation, light, power, tools, and equipment; or for furnishing, building, and maintaining camps, construction plant, access roads, sanitary conveniences, disposal works, water supply, fire protection, guards, trestles, telephone system, submittals (except as hereinafter provided for shop drawings), design, falsework, formwork, or any other similar service, thing, facility, equipment, or material of a non-permanent nature; or for the removal of all temporary structures, plant, and materials, or for medical attendance or health protection, or for watchmen, magazine keepers, or guards, unless payment therefor has been specifically authorized. Compensation for all such services, facilities, things, equipment, or materials necessary or required to execute the work in accordance with the provisions of the Contract shall be considered as having been included in the prices stipulated for the appropriate items. For Contractor-furnished equipment for which a shop drawing must be submitted, SFCWA will make a partial payment for an approved shop drawing, in an amount equal to the amount listed for such shop drawing in the schedule of values, provided that the value shall not exceed three percent of the value of the equipment depicted in the shop drawing. The value of Contractor-furnished equipment requiring shop drawings for which the Contractor may seek partial payment shall be listed in the schedule of values cost breakdown provided in Paragraph 33 (a)(2).

33. Partial Estimates. — (a) The Contractor shall, by the twenty-fifth day of each calendar month, make in writing a true and accurate estimate of the amount and value of the work done by the Contractor up to that time in the performance of the Contract.

(1) In the case of work for which unit prices are named in the Contract, the partial estimate shall be computed on the basis of said unit prices.

(2) The Contractor shall submit a detailed cost breakdown for lump-sum contracts or contract items bid on a lump-sum basis when required by the Engineer; provided, that in case the prices submitted in said breakdown do not, in the opinion of the Engineer, truly represent the actual relative costs, the Engineer will prepare a schedule of prices which shall be used in estimating the value of the work performed.

(b) To the figure arrived at shall be added any amount due the Contractor for extra work and the amount of any approved claims for extra cost to the date of the progress estimate. A deduction of 5 percent will be made from the total estimated value of the work performed until final completion and acceptance of all the work covered by the Contract. The amount retained by SFCWA will be included in the final payment specified in Article 36 of the General Conditions. From the remainder there shall be further deducted any amounts due SFCWA from the Contractor for supplies or materials furnished or services rendered and any other amounts that may be due SFCWA under the terms of the Contract. From the balance thus determined shall be deducted the amount of all previous payments and the remainder shall constitute the partial estimate for that month. Except as otherwise provided in the specifications, no part of the Contractor's plant or any material not incorporated in the work shall be included in the partial estimates. Such partial estimates shall not be required to be made by strict measurement, but they may be made by measurement or by estimation, or partly by one method and partly by the other, and it shall be sufficient if they are approximate only.

(c) Partial estimates may include the value of required permanent materials which have been delivered to the site but not yet installed or incorporated into the work, and payment for the certified vendor invoice amount will be made therefor, subject to the terms and conditions stated above, and to the following:

(1) Unless otherwise specified or shown, materials shall be stored or warehoused at no cost to SFCWA to preserve them from damage by weather or loss due to pilferage or other cause. All requests by the Engineer to enclose, cover, or provide other specific method of protection for materials shall be promptly complied with;

(2) The Contractor shall submit to SFCWA, copies of original invoices for all materials purchased and shall certify that full payment has been made to the respective vendor or supplier in each case;

(3) No such materials shall be eligible for inclusion on any partial estimate for payment unless the Contractor shall have submitted a cost breakdown and unless the cost of such materials shown thereon has been correctly separated as to cost of material alone and the cost of installation; and

(4) The Contractor shall maintain at all times and continuously a detailed inventory record of all materials in storage and shall make such record available for SFCWA use at any time.

(d) If at any time the Contractor fails to conform to the foregoing terms and conditions, partial payments for such stored materials will be discontinued.

(e) Prior to submitting the estimate to SFCWA, the Contractor shall append to the estimate and sign the following certification: "I certify that: this estimate is a true and accurate claim for the partial payment on a SFCWA contract; that the estimate is made in accordance with the requirements of the contract; and I have actual knowledge of the information presented in the estimate."

34. Partial Estimates May Be Withheld. — The partial estimates provided for in Article 33, hereof, and the payment thereof, or both, may at any time, be withheld or reduced if, in the opinion of the Engineer, the Contractor is not performing the work in accordance with the Contract in a material respect, diligently and efficiently endeavoring to comply with the intent of the Contract, or if the Contractor shall fail to pay his labor and material bills as they become due. In determining whether the Contractor's failure to perform in accordance with the Contract is material, the Engineer will give consideration, among other factors, to whether the Contractor's failure so to perform endangers the public health, safety, and welfare, and whether the work is being performed in accordance with the accepted construction schedule.

35. Partial Payments. — (a) SFCWA shall review each partial payment request as soon as practicable after receipt for the purpose of determining that the partial payment request is a proper payment request and submitted in accordance with the requirements of Article 33 herein. Any payment request determined not to be a proper payment request suitable for payment shall be returned to the Contractor as soon as practicable, but not later than 7 days, after receipt. A returned request shall be accompanied by a document setting forth in writing the reasons why the payment request is not proper. SFCWA may at all times reserve and retain from such partial payment the retained percentage and other amounts which it is authorized or required under the terms of the Contract or of any law of the State of California to reserve or retain. No such partial payment shall constitute an acceptance of the work or any portion thereof.

(b) If SFCWA fails to make a partial payment within 30 days after receipt of an undisputed and properly submitted payment request from the Contractor, SFCWA shall pay interest to the Contractor equivalent to the legal rate set forth in subdivision (a) of Code of Civil Procedure section 685.010. The number of days available to SFCWA for making a partial payment without incurring interest pursuant to this section shall be reduced by the number of days by which SFCWA exceeds the seven-day return requirement set forth in Paragraph (a) above.

36. Final Payment. — Within 10 days after the date of completion, the Engineer shall cause to be filed, on behalf of SFCWA, in the office of the county recorder of the county, or counties, in which the work is located, a notice of the completion of the work herein agreed to be done by the Contractor. Within 60 days of the date of completion SFCWA will pay to the Contractor the amount remaining after deducting from the original contract amount plus the sum of approved change orders all such sums as shall theretofore have been paid to the Contractor under any of the provisions of which, by the terms hereof, SFCWA is or may be authorized or required to reserve or retain funds. Any moneys withheld beyond the allowable amount or prescribed time will accrue interest at a rate of two percent per month until such time that said moneys are released to the Contractor, at which time withheld moneys and accrued interest shall be dispensed. All prior certificates, upon which partial payments may have been made, being merely estimates, shall be subject to correction in the final certificate, which corrections may be made without notice thereof to the Contractor or of the measurements upon which they were based. In the event of a dispute between SFCWA and the Contractor, SFCWA may withhold from the final payment an amount not to exceed 150 percent of the disputed amount.

37. False or Erroneous Certificates. — Neither SFCWA, nor any officer thereof, shall at any time either before or after the final completion and acceptance of the work and payment therefor, pursuant to any return or certificate made or given by the Engineer, or other officer, agent, or appointee of SFCWA, under the provisions of this Contract, be precluded or estopped by any such return or certificate from showing the true and correct amount and character of the work done and materials furnished by the Contractor or any other person under this agreement, or from showing at any time that such return or certificate is untrue and incorrect or improperly made in any particular, or that the work and materials, or any part thereof, do not in fact conform to the specifications; and SFCWA shall not be precluded or estopped, notwithstanding any such return or certificate and payment in accordance therewith, from demanding and recovering from the Contractor such damages as it may sustain by reason of his failure to comply with the specifications.

38. Acceptance of Work Not a Waiver. — Neither any order, measurement, or certificate by the Engineer, nor any payment of money by SFCWA or any of its officers, nor any payment for, or acceptance of the whole or any part of the work by the Engineer or SFCWA or any of its employees, nor any adjustment of time, nor any possession taken by SFCWA or its employees, shall operate

as a waiver of any portion of this Contract or of any power therein reserved to SFCWA, or any right to damages herein provided; nor shall any waiver of any breach of this Contract be held to be a waiver of any other or subsequent breach.

39. Final Payment Terminates Liability. — No claim shall be made or be filed and neither SFCWA nor the Board, nor any member of the Board, nor any of its agents, shall be liable, or held to pay any money, except as specifically provided in the Contract. The acceptance by the Contractor of the final payment when no securities or certificates of deposit have been deposited in escrow or with SFCWA as provided in the Special Conditions, or his acceptance from the escrow agent or SFCWA of the securities or certificates of deposit substituted for the retention, whichever is later, shall operate as, and shall be, a release to SFCWA, the Board, and each member of the Board and their agents, from all claims and liability to the Contractor for anything done or furnished for, or relating to, the work or for any act or neglect of SFCWA or of any person relating to or affecting the work, except claims previously made as provided for and in accordance with the provisions of Article 18 and pending at the time of acceptance of final payment or of the securities or certificates of deposit, or the claim against SFCWA for the remainder, if any there be, of the amounts kept or retained as provided in Article 42.

40. Payment Only in Accordance with Contract. — The Contractor shall not demand or be entitled to receive payment for the work or materials, or any portion thereof, except in the manner set forth in the Contract; nor unless each and every one of the promises, agreements, stipulations, terms and conditions herein contained to be performed, kept, observed, and fulfilled on the part of the Contractor, shall have been performed, kept, observed, and fulfilled, and the Engineer shall have accepted the work and given his certificate to that effect. Said final certificate of completion and acceptance shall be final and conclusive upon the Contractor.

41. Moneys May Be Retained. — SFCWA may keep moneys which would otherwise be payable at any time hereunder, and apply the same, or so much as may be necessary therefor, to the payment of expenses, losses, or damages, as determined by the Engineer, incurred by SFCWA for which the Contractor is liable under the Contract.

42. Unpaid Claims. — If, at any time prior to the expiration of the period for service of a stop payment notice, there is served upon SFCWA a stop payment notice as provided in Section 9350 et. seq. of the Civil Code of the State of California, SFCWA shall, until the discharge thereof, withhold from the moneys under its control so much of said moneys due or to become due the Contractor under this Contract as shall be sufficient to answer the claim stated in such stop payment notice and to provide for the reasonable cost of any litigation thereunder; provided, that if the Engineer shall, in his discretion, permit the Contractor to file with SFCWA the bond referred to in Section 9364 of the Civil Code of the State of California, said moneys shall not thereafter be withheld on account of such stop payment notice.

43. Payment of Wages. — The issuance of any evidence of indebtedness as payment for wages is prohibited unless the same is negotiable and payable on demand without discount. Wages must be paid at least semimonthly on regular pay days established in advance, and shall include all amounts for labor or services performed of every description. (See California Labor Code.)

44. Eight-hour Law. — Pursuant to the provisions of the California Labor Code, eight hours labor shall constitute a legal day's work. Work performed by employees of Contractor in excess of either eight hours per day, or forty hours during any one week, shall be permitted upon public work upon compensation for all hours worked in excess of either eight hours per day, or forty hours during any one week, at not less than one and one-half (1½) times the basic rate of pay. The Contractor shall forfeit as a penalty to SFCWA \$50.00 for each worker employed in the execution of this Contract by him or by a subcontractor under him, for each calendar day during which such worker is required or permitted to work more than eight hours in any one calendar day and forty hours in any one calendar week in violation of the provisions of said Labor Code.

45. Overtime — No Extra Compensation. — Overtime work, i.e., work in excess of eight hours in any one calendar day, or work performed on a Sunday or on the days considered holidays in Section 01010 of the Project Specifications shall not entitle the Contractor to any compensation for any contract item in addition to that stipulated in the Contract for the kind of work performed, even though such overtime or holiday work may be required under emergency conditions, and may be ordered by the Engineer in writing. In case of extra work ordered by the Engineer under the provisions of Article 11, hereof, no additional payment will be made to the Contractor because of the payment by him of overtime or holiday rates for such work, unless the use of overtime or holiday work in connection with such extra work is specifically ordered in writing by the Engineer, and then only to such extent as extra payment is regularly being made by the Contractor to his workers for overtime or holiday work of a similar nature in the same locality.

46. Prevailing Rates of Wages. — (a) In accordance with the provisions of the California Labor Code, the Board of Directors of SFCWA has obtained from the Director of Industrial Relations of the State of California his determination of the general prevailing rates of per diem wages in the locality in which the work is to be performed. A copy of this determination will be made available to the Contractor, and he shall post said copy at the jobsite.

(b) The prevailing wage rates shall be paid for all work performed under the Contract. When any craft or classification is omitted from the general prevailing wage determinations, the Contractor shall pay the wage rate of the craft or classification most closely related to the omitted classification. The Contractor shall forfeit as a penalty to SFCWA \$50.00 for each calendar day, or

portion thereof, for each worker paid less than the prevailing rates for any work done under the Contract by him, or by any subcontractor under him, in violation of the provisions of the California Labor Code. In addition, the difference between such prevailing wage rates and the amount paid to each worker for each calendar day, or portion thereof, for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the Contractor.

(c) The Contractor shall make payment of travel and subsistence payments to each worker needed to execute the work, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Section 1773.8 of the California Labor Code.

47. Interference with Fire Hydrants and Highways. — The Contractor shall so conduct his operations as not to close or obstruct any portion of any highway, road, or street, or prevent in any way free access to fire hydrants until he has obtained permits therefor from the proper authorities. If any highway required to be kept open shall be rendered unsafe by the Contractor's operations, he shall make such repairs or provide such temporary guards as shall be acceptable to the authorities having jurisdiction of such matters and to the Engineer. Any highway or street maintenance or repair work required by local authorities in connection with necessary operations under this Contract shall be performed by the Contractor at his own cost and expense.

48. Other Rights-of-Way and Structures. — Except as otherwise specifically provided in the specifications, the Contractor shall not do any work that would affect any facility, including but not limited to railway track, pipeline, telephone, telegraph, or electric transmission line, irrigation ditch or other structure, nor enter upon the right-of-way or other lands appurtenant thereto, until notified by the Engineer that SFCWA has secured authority therefor from the proper companies or parties. Thereafter and before he begins such work the Contractor shall give said companies or parties due notice of his intention to do so, and he shall give said companies or parties convenient access and every facility for removing, shoring, supporting, or otherwise protecting such tracks, lines, ditches, or structures and for replacing same. If the Contractor, while performing the Contract, discovers utility facilities not identified by SFCWA in the drawings or specifications, he shall immediately notify SFCWA in writing.

49. Trespass. — The Contractor shall be responsible for all damages or injuries on a property which may be caused by trespass by the Contractor or his employees in the course of their employment.

50. Character of Workers. — None but skilled workers shall be employed on work requiring special qualifications. When required in writing by the Engineer, the Contractor or any subcontractor shall discharge any person who is, in the opinion of the Engineer, incompetent, disorderly or who violates safety requirements or SFCWA's substance abuse policy, or is otherwise unsatisfactory, and shall not again employ such discharged person on the work except with the consent of the Engineer. Such discharge shall not be the basis of any claim for compensation or damages against SFCWA or any of its employees.

51. Employment of Labor. — (a) No convict labor shall be directly employed by the Contractor or any subcontractor in the performance of any work done under this Contract.

(b) In the employment of labor for the performance of this Contract, SFCWA desires that the Contractor and all subcontractors shall, wherever possible, give first consideration to residents who reside within SFCWA's service area.

52. Substance Abuse Policy. — SFCWA maintains a zero tolerance policy against illegal drug and unauthorized alcohol use in the workplace. This policy extends to contractors, subcontractors and vendors who work on SFCWA property or any place where SFCWA business is transacted. It is a violation of the zero tolerance policy to manufacture, distribute, dispense, use, possess, sell, trade, and/or offer for sale alcohol, or illegal drugs, in the workplace. Entering SFCWA property constitutes consent to searches and inspections. If an individual is suspected of violating this policy, he or she may be asked to submit to a search or inspection at any time.

53. Safety and Protection. — (a) The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

- (1) All persons on the work site or who may be affected by the work;
- (2) All the work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
- (3) Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction.

(b) The Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify owners of adjacent property and of underground facilities and utility owners when prosecution of the work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in Paragraphs (a)(2) or (a)(3) of Article 53 caused, directly or indirectly, in whole or in part, by the Contractor, any subcontractor, supplier, or any other person or organization directly or

indirectly employed by any of them to perform or furnish any of the work, or anyone for whose acts any of them may be liable, shall be remedied by the Contractor (except damage or loss attributable to the acts or omissions of SFCWA or its consultants or anyone employed by any of them or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the Contractor or any subcontractor, supplier, or other person or organization directly or indirectly employed by any of them). The Contractor's duties and responsibilities for safety and for protection of the work shall continue until such time as SFCWA has accepted the work.

54. Laws and Regulations. — (a) The Contractor shall give all notices applicable to furnishing and performing the work. The Contractor, his agents, and his employees shall comply with all such applicable laws and regulations in effect or that may become effective before completion of this Contract.

(b) If the Contractor performs any work that is contrary to laws or regulations, the Contractor shall bear all claims, costs, losses and damages caused by, arising out of or resulting therefrom; however, it shall not be the Contractor's primary responsibility to make certain that the specifications and drawings are in accordance with laws and regulations, but this shall not relieve the Contractor of its obligations under Paragraph 19(c).

(c) Except as otherwise explicitly provided elsewhere in the specifications, all permits and licenses necessary to the prosecution of the work shall be secured by the Contractor at his own expense; and he shall pay all taxes properly assessed against his equipment or property used or required in connection with the work.

(d) SFCWA will not be liable for the Contractor's failure to obtain, maintain, and comply with all required permits and licenses. All fines and fees assessed by the regulatory agencies as a result of said failures shall be the Contractor's responsibility. In the event SFCWA is assessed with any fines or fees by a regulatory agency related to the Contractor's failure to obtain, maintain, and comply with all required permits and licenses, the amount of fees or fines will be deducted from Contractor's earnings.

55. Employment of Indentured Apprentices. — The Contractor shall comply with the provisions of Section 1777.5 of the California Labor Code relating to employment of indentured apprentices on public works.

56. Substitution of Securities for Withheld Funds. — (a) At any time during the term of the Contract the Contractor may substitute securities for funds otherwise withheld as retention, in accordance with Public Contract Code § 22300 and Document 00520, "Escrow Agreement for Security Deposits in Lieu of Retention."

(b) Three copies of the Escrow Agreement shall be signed by the Contractor or a person authorized to execute contracts on behalf of the Contractor, signed by a person authorized to execute on behalf of the Escrow Agent and submitted to the Engineer. When approved and signed by SFCWA, one copy will be returned to the Contractor and one copy to the Escrow Agent.

(c) Payment of withheld retention funds by SFCWA to the Contractor shall be made by SFCWA within 15 days after SFCWA has received notice from the Escrow Agent of receipt and deposit of sufficient securities into the escrow account.

(d) The Contractor may elect to deposit securities, or standby letters of credit in a form acceptable to SFCWA, directly with SFCWA in accordance with Public Contract Code § 22300.

57. Attorney's Fees Not Awarded. — Attorney's fees shall not be awarded to either party in any action at law or in equity, including an action for declaratory relief, brought to enforce or interpret the provisions of this Contract or to assert any claim resulting or alleged to result from its performance.

58. Suspension, Termination, or Changes in Work in the Event of Litigation. — (a) If performance of this Contract is suspended, delayed, or interrupted by an order of a court of competent jurisdiction, such suspension, delay or interruption will be considered to be for the convenience and benefit of SFCWA under Paragraph 13(a)(3) except where the order is determined by the Engineer to have resulted from a failure or refusal of the Contractor to comply with a statute, rule, regulation, or decision directly applicable to performance of the work in effect at the time of contract award, in which case the suspension, delay or interruption will be considered to be a suspension for failure of the Contractor to carry out orders under Paragraph 13(a)(2).

(b) If performance of this Contract is determined by the Engineer to be indefinitely suspended, delayed, or interrupted as a result of an order of a court of competent jurisdiction and such suspension, delay, or interruption is found by him not to be due to a failure or refusal of the Contractor to comply with a statute, rule, regulation, or decision directly applicable to performance of the work in effect at the time of contract award, the Engineer may terminate the Contract pursuant to the provisions of Article 14.

(c) If pursuant to court order (other than an order to show cause), SFCWA is temporarily or permanently prohibited from requiring the Contractor to perform any portion of the work, the Engineer may eliminate the enjoined work pursuant to Article 10.

(d) Ninety consecutive days of suspension, delay or interruption in the performance of the work due to court order shall be deemed to be a suspension, delay, or interruption of indefinite duration and the Contractor may, upon lapse of such period, request the Engineer to terminate the Contract. The Contractor's request for termination will be complied with unless the Engineer

determines that the responsibility for the delay, or interruption, was due to a failure or refusal of the Contractor to comply with a statute, rule, regulation, or decision applicable to performance of the work in effect at the time of contract award.

59. Assignment of Causes of Action. — By entering into this Contract, the Contractor offers and agrees to assign to SFCWA all rights, title, interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Ch.2, [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Contract. The Contractor shall include in each subcontract a provision corresponding to the foregoing binding the subcontractor to offer and agree to assign to SFCWA such rights, title, and interest held by such subcontractor. Any such assignment shall be made and become effective at the time SFCWA tenders final payment to the Contractor, without further acknowledgment by the parties.

60. Differing or Unusual Site Conditions. — (a) The Contractor shall promptly, and before the following conditions are disturbed, notify the Engineer, in writing, of any:

(1) Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site.

(2) Subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.

(3) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

(b) Upon receipt of such notice, the Engineer will promptly investigate the conditions, and if he finds that the conditions do materially so differ, or involve hazardous waste, and cause a decrease or increase in the Contractor's cost for, or the time required for, performance of any part of the work, a change order or extra work order will, as he deems to be appropriate, be issued in accordance with the requirements of Articles 10 and 11 of the General Conditions.

(c) In the event that a dispute arises between SFCWA and the Contractor whether the conditions do materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of or time required for performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract but shall proceed with all work to be performed under the Contract. The Contractor shall retain any and all rights provided either by this Contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

61. Hazardous Substance, Hazardous Waste, or Asbestos-Related Work. — In the event the Contractor encounters on the site materials he or she reasonably believes to be asbestos, a hazardous substance, or hazardous waste, the presence of such asbestos, hazardous substance, or hazardous waste was not disclosed in the contract documents, and the asbestos, hazardous substance, or hazardous waste has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed safe, and shall immediately cease work on the area affected and report the condition to the Engineer in writing. For purposes of this article, "asbestos-related work" is defined in Chapter 6 (commencing with Section 6500) of Part 1 of Division 5 of the Labor Code, including Section 6501.8 of the Labor Code, and involves 100 square feet or more of surface area of asbestos-containing material and is such that it requires that the Contractor who performs the work must be certified in accordance with subdivision (a) of Section 7058.5 of the Business and Professions Code. "Hazardous substance removal" has the same meaning as used in Section 7058.7 of the Business and Professions Code, and "hazardous waste" is defined in California Health & Safety Code § 25117.

62. Hazardous Material. — The transportation, storage, use, removal, and disposal of hazardous materials used in the performance of the work by the Contractor and its subcontractors shall be in accordance with all laws, ordinances, and regulations. Hazardous materials are defined by state and federal regulation. The Contractor shall be responsible for obtaining and paying for all licenses, permits, inspections, and approvals required by the use of such hazardous materials. For hazardous materials brought onto the site by the Contractor, the Contractor shall maintain at the site Material Safety Data Sheets, which shall be accessible to SFCWA personnel.

63. Hazardous Waste. — If the Contractor is required to perform removal of hazardous waste, then hazardous waste shall be recycled if economically and technologically feasible, in accordance with the Health & Safety Code. The Engineer may provide technical assistance regarding management of hazardous waste, and shall review all recycling, treatment, incineration and landfill proposals for hazardous waste generated by contract work processes or otherwise encountered by the Contractor at the project site. Transportation, treatment, storage, or disposal of hazardous waste requires approval by the Engineer, and shall be performed by a state-licensed hauler and state-licensed treatment, storage, and disposal facility, as required by state and federal regulations.

64. Insurance. — (a) The Contractor shall furnish and maintain, for the duration of the Contract, insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work and the results of that work by the Contractor, its agents, representatives, employees or subcontractors.

(b) General Liability. The Contractor shall provide general liability insurance that meets the following requirements:

(1) The general liability coverage shall be at least as broad as Insurance Services Office Commercial Liability coverage (occurrence Form CG0001).

(2) Unless otherwise specified in Document 00800, "Supplementary General Conditions," the minimum limits shall be \$2,000,000 per occurrence for bodily injury, personal injury and property damage (including operations, products and completed operations). During the period of time that any aircraft is used, a current certificate of insurance with aircraft liability coverage of \$5,000,000 will be required. If a general aggregate limit is used, either the general aggregate limit shall apply separately to the project or location, or the general aggregate limit shall be twice the specified occurrence limit.

(3) It is permissible to provide an acceptable umbrella policy to meet the minimum limits when the limits on the Contractor's General Liability policy are not sufficient to meet the specified minimum limits, provided that the umbrella does not exclude any peril covered by the primary policy.

(c) Automobile Liability. The Contractor shall provide automobile liability insurance that meets the following requirements:

(1) The automobile liability coverage shall be at least as broad as Insurance Services Office Form Number CA 0001, Code 1, (any auto).

(2) Unless otherwise specified in Document 00800, "Supplementary General Conditions," the minimum limits shall be \$1,000,000 per accident for bodily injury and property damage, combined single limits.

(d) Workers' Compensation. The Contractor shall provide workers' compensation insurance that is in accordance with State of California statutory requirements and shall include Employer's Liability coverage of \$1,000,000 per accident for bodily injury or disease. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of SFCWA for all work performed by the Contractor, its employees, agents and subcontractors.

(e) The Contractor shall furnish and maintain with SFCWA original certificates, including amendatory endorsements, for insurance required by the provisions of this document. The certificates shall be on "ACORD Certificate of Insurance" forms. The Contractor shall send the certificates to the following address:

State and Federal Contractors Water Agency
1121 L Street, Suite 806
Sacramento, CA 95814

Review and acceptance of the certificates shall not confer responsibility upon SFCWA as to sufficiency of coverage. SFCWA reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting coverage, and coverage binders at any time during the contract. The Contractor shall submit updated certificates to SFCWA prior to expiration of previous certificates. SFCWA reserves the right to withhold progress payments should the Contractor fail to submit updated certificates.

(f) If aircraft is used on the project, a certificate of such insurance shall be furnished at least 15 days prior to the use of the aircraft, and shall be maintained for the period of aircraft use.

(g) The general liability and automobile liability policies shall be endorsed as follows:

(1) SFCWA, its Board, each member of the Board, its officers, employees, and agents are designated as additional insureds with respect to the project covered by the Contract, during the period of the Contract. General Liability coverage shall be provided in the form of an Additional Insured endorsement (CG 20 10 11 85 or equivalent) to the Contractor's insurance policy, or as a separate owner's policy.

(2) For any claims related to this project, the Contractor's insurance coverage shall be primary insurance with respect to SFCWA, its Board, each member of the Board, its officers, employees, and agents. Any insurance or self-insurance maintained by SFCWA, its Board, each member of the Board, its officers, employees, or agents shall be excess of the Contractor's insurance and shall not contribute with it.

(3) Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Subdivision (b) of Section 2782 of the California Civil Code.

(4) Coverage includes a "severability of interests" clause that provides that the insurance afforded applies separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the company's liability.

(h) All policies shall be endorsed to state that coverage shall not be canceled or terminated, until and unless 30 days' prior written notice by certified mail, return receipt requested, has been given to SFCWA.

(i) Insurance required by the provisions of this document shall be issued by an insurance organization approved by SFCWA and holding a certificate of authority from the Insurance Commissioner of the State of California admitting it to transact business in the State of California for the applicable class of insurance, as required by § 700 of the California Insurance Code. Additionally, the insurance organization shall have a current AM Best's Financial Strength Rating of no less than A and Financial Size Category of no less than VIII, unless otherwise agreed to by SFCWA. With SFCWA's approval, the Contractor may provide insurance from a non-admitted carrier with a current AM Best's Financial Strength Rating of no less than A and Financial Size Category of no less than X, unless otherwise agreed to by SFCWA. Exception may be made for the State Compensation Insurance Fund when not specifically rated.

65. Payrolls and Records. — (a) The Contractor shall maintain payrolls and basic records relating thereto during the course of the work for all laborers and mechanics, including apprentices, trainees, watchmen, and guards working at the site of the work. Such records shall contain the name and address of each employee, his correct classification, rate of pay (including rates of contributions for, or costs assumed to provide various fringe benefits), daily and weekly number of hours worked, deductions made, and actual wages paid.

(b) The Contractor shall furnish monthly a copy of each payroll to the Engineer. The Contractor shall be responsible for the submission of copies of payrolls of all subcontractors. Each copy shall be accompanied by a statement signed by the Contractor indicating that the payroll is correct and complete, that the wage rates contained therein are not less than those required to be paid, and that the classifications set forth for laborers or mechanics, including apprentices and trainees, truly reflect the work performed in each case.

66. Non-Use of Intellectual Property of Third Parties. — The Contractor shall not use, disclose or copy any intellectual property of any third parties in connection with work carried out under this Contract, except for intellectual property for which the Contractor has a license. The Contractor shall indemnify and hold SFCWA harmless against all claims raised against SFCWA based upon allegations that the Contractor has wrongfully used intellectual property of others in performing work for SFCWA, or that SFCWA has wrongfully used intellectual property developed by the Contractor pursuant to this Contract.

END OF DOCUMENT

DOCUMENT 00800
SUPPLEMENTARY GENERAL CONDITIONS

1. In Document 00700, “General Conditions” change subparagraph (4) of Article 1 to read:

(4) The word ENGINEER shall mean the GENERAL MANAGER, Westervelt Ecological Services, Inc, Northwest Hydraulic Consultants, Kjeldsen, Sinnock & Neudeck, Inc. or their designated representatives acting within the limits of authority.

2. In Document 00700, “General Conditions,” change Article 2 to read:

Contract Documents Complementary. – (a) The contract documents are complementary, and what is called for in any one shall be as binding as if called for in all. The specifications, general conditions, supplementary general conditions, addenda, contract change orders, the drawings, and all supplementary documents are essential parts of the contract documents. The intention of the documents is to require a finished piece of work, with the exception of such items definitely stipulated in the project specifications or the drawings to be furnished by SFCWA. Anything shown on the drawings and not in the project specifications or in the project specifications and not on the drawings, or neither on the drawings nor in the project specifications but necessary to properly complete the work in accordance with the applicable law and governmental regulations, shall be performed by the Contractor as though shown in both the drawings and the project specifications.

(b) In the event of conflicts between the contract documents, the order of precedence shall be as follows:

 1. Modifications or changes (contract change orders) last in time are first in precedence.
 2. Addenda.
 3. General Conditions except for specific modifications made thereto stated in the Supplemental General Conditions or Division 01 Specifications,
 4. Supplemental General Conditions.
 5. Specifications.
 6. Should there be a conflict among the General Conditions, Supplemental General Conditions, and Division 01 Specifications, the more restrictive will apply.
 7. Drawings; as between figures given on the drawings and the scaled measurements, the figures shall govern; as between large-scale drawings and small-scale drawings, the larger scale shall govern.
 8. As between detailed drawings and standard plates bound within the specifications, the detail drawings shall govern.
 9. In the event where provisions of codes, safety orders, contract documents, manufacturer’s instructions, or referenced industry standards are in conflict, the more restrictive shall govern.

(c) Work described in words which so applied have a well-known technical or trade meaning shall be held to carry such meaning.

3. In Document 00700, “General Conditions,” add the following subparagraph (c) to Article 3:

(c) TIMELINESS: Time is of the essence in this Agreement.

4. In Document 00700, “General Conditions,” change Article 4 to read:

ASSIGNMENT: This Agreement is not assignable by the Contractor, either in whole or in part, without the consent of the State in the form of a formal written amendment.

5. In Document 00700, “General Conditions,” add the following subparagraph (f) to Article 10:

(f) AMENDMENT: No amendment or variation of the terms of this Agreement shall be valid unless made in writing, signed by the parties and approved as required. No oral understanding or Agreement not incorporated in the Agreement is binding on any of the parties.\

6. In Document 00700, “General Conditions,” change Article 12 to read:

12. AUDIT: Contractor agrees that the awarding department, the Department of General Services, the Bureau of State Audits, or their designated representative shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this Agreement. Contractor agrees to maintain such records for possible audit for a minimum of three (3) years after final payment, unless a longer period of records retention is stipulated. Contractor agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. Further, Contractor agrees to include a similar right of the State to audit records and interview staff in any subcontract related to performance of this Agreement. (Gov. Code §8546.7, Pub. Contract Code §10115 et seq., CCR Title 2, Section 1896).

7. In Document 00700, "General Conditions," add the following subparagraph (l) to Article 18:

(l) **DISPUTES:** Contractor shall continue with the responsibilities under this Agreement during any dispute.

8. In Document 00700, "General Conditions," change subparagraph 19(f) to read:

(f) **INDEMNIFICATION:** Contractor agrees to indemnify, defend and save harmless the State, its officers, agents and employees, SFCWA, the Board, each member of the Board, Westervelt Ecological Services Inc, Northwest Hydraulic Consultants, Kjeldsen, Sinnock & Neudeck Inc, and SFCWA's officers, agents, and employees from any and all claims and losses accruing or resulting to any and all contractors, subcontractors, suppliers, laborers, and any other person, firm or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement, and from any and all claims and losses accruing or resulting to any person, firm or corporation who may be injured or damaged by Contractor in the performance of this Agreement.

9. In Document 00700, "General Conditions," change subparagraph 64(b) to read:

(b) **General and Contractors Pollution Liability.** The Contractor shall provide general and pollution liability insurance that meets the following requirements:

(1) The general liability coverage shall be at least as broad as Insurance Services Office Commercial Liability coverage (occurrence Form CG0001).

- (i) The minimum limits shall be \$2,000,000 per occurrence for bodily injury, personal injury and property damage (including operations, products and completed operations). During the period of time that any aircraft is used, a current certificate of insurance with aircraft liability coverage of \$5,000,000 will be required. If a general aggregate limit is used, either the general aggregate limit shall apply separately to the project or location, or the general aggregate limit shall be twice the specified occurrence limit.
- (ii) It is permissible to provide an acceptable umbrella policy to meet the minimum limits when the limits on the Contractor's General Liability policy are not sufficient to meet the specified minimum limits, provided that the umbrella does not exclude any peril covered by the primary policy.

(2) Contractor Pollution Liability applicable to the work being performed, with a limit no less than \$2,000,000 per claim or occurrence and \$5,000,000 aggregate per policy period of one year Contractors Pollution Liability or an equivalent coverage extension within the General Liability policy. Partial operations coverage is unacceptable. This policy shall provide coverage for:

- (i) Bodily injury, sickness, disease, sustained by any person, including death;
- (ii) Property damage includes physical injury to or destruction of tangible property including the resulting loss of use thereof; clean-up costs, and the loss of use of tangible property that has not been physically injured or destroyed including diminution of value and Natural Resources damages.
- (iii) Defense costs including costs, charges and expenses incurred in the investigation, adjustment or defense of claims.
- (iv) Contractual liability coverage, e.g. coverage for liability assumed by the named insured under a written contract or agreement.
- (v) The full scope of the named insureds operations as described within the scope of work for this contract.
- (vi) The policy must provide coverage for claims arising from owned and non-owned disposal sites utilized in the performance of this contract.
- (vii) This coverage can be provided on either claims made or occurrence based policy form.

- (viii) The policy must insure contractual liability, be Primary and Non Contributory and name Site owner as an Additional Insured.
- (ix) The policy must waive subrogation for the additional insured.
- (x) The insured pollutants shall specifically include fungus, mold, bacteria and viruses.
- (xi) SFCWA, its Board, each member of the Board, its officers, employees, and agents are designated as additional insureds.
- (xii) The policy may not contain separate restrictions for:
 - a. Insured versus insured actions. However exclusions for claims made between insureds within the same economic family are acceptable.
 - b. For completed operations in any coverage part of the policy for either the insured or the additional insured certificate holder.
 - c. Damage to property that cannot be used or is less useful because of the operations of the insured. (Most Impaired Property exclusions are not acceptable.)
 - d. Work performed by subcontractors.
 - e. Chinese or other contaminated drywall.
 - f. Habitational construction.
 - g. Property Damage to Your Work.
 - h. Impaired Property.
- (xiii) Completed Operations coverage shall be maintained through the purchase of renewal policies to protect the insured and additional insured for at least 2 years after SFCWA accepts the project or this contract is terminated. The purchase of an extended discovery period or an extended reporting period on a Claims Made policy or the purchase of occurrence based Contractors Environmental Insurance will not be sufficient to meet the terms of this provision. The purchase of a completed operations coverage endorsement under a claims made or occurrence based policy form will be acceptable if insurance is not continuously renewed.

10. Add the following Article 67 at the end of Document 00700, "General Conditions":

67. Variation in Quantities for Unit Price Items. — (a) The number of units and quantities contained in Document 00310, "Bidding Sheet(s)," are approximate only, and final payment shall be made for the actual number of units and quantities which are incorporated in or made necessary by the work included in this contract.

(b) In the event that work and/or materials for unit price bid items are required to be furnished in greater or lesser quantities than is indicated in the Bidding Sheet(s), such work and/or materials shall be furnished in greater or lesser quantities in accordance with the unit prices quoted in the Bidding Sheet(s).

(c) No adjustments in unit prices will be allowed for variation in quantities.

(e) For all unit price bid items, no time extension shall be granted for any work in excess of the original bid price quantities.

11. Add the following Article 68 at the end of Document 00700 "General Conditions":

68. FINAL PAY ITEMS:

(a) When an item of work is designated as (FP) in the Bid Schedule of Document 00310 "Bidding Sheet", the estimated quantity for the item of work shall be the final pay quantity, unless the dimensions of any portion of that item are revised by the Engineer, or the item or any portion of the item is eliminated. If the dimensions of any portion of item are revised and the revisions result in an increase or decrease in the estimated quantity of that item of work, the final pay quantity for the item will be revised in the amount represented by the changes in dimensions. If a final pay item is eliminated, the estimated quantity for the item will be eliminated. If a portion of a final pay item is eliminated, the final pay quantity will be revised in the amount represented by the eliminated portion of the item of work.

(b) The estimated quantity for each item of work designated as (FP) in the Bid Schedule of Document 00310 "Bidding Sheet" shall be considered as approximate only, and no guarantee is made that the quantity which can be determined by computations, based on the details and dimensions shown on the plans or as measured in the field, will equal the estimated quantity. No allowance will be made in the event that the quantity based on computations or as measured in the field does not equal the estimated quantity.

(c) In case of discrepancy, between the quantity shown in the Bid Schedule for a final pay item and the quantity or summation of quantities for the same item shown on the plans, payment will be based on the quantity shown in Bid Schedule

12. Add the following Article 69 at the end of Document 00700, "General Conditions":
69. APPROVAL: This Agreement is of no force or effect until signed by both parties and approved by the Department of General Services, if required. Contractor may not commence performance until such approval has been obtained.
13. Add the following Article 70 at the end of Document 00700, "General Conditions":
70. TERMINATION FOR CAUSE: The State may terminate this Agreement and be relieved of any payments should the Contractor fail to perform the requirements of this Agreement at the time and in the manner herein provided. In the event of such termination the State may proceed with the work in any manner deemed proper by the State. All costs to the State shall be deducted from any sum due the Contractor under this Agreement and the balance, if any, shall be paid to the Contractor upon demand.
14. Add the following Article 71 at the end of Document 00700, "General Conditions":
71. INDEPENDENT CONTRACTOR: Contractor, and the agents and employees of Contractor, in the performance of this Agreement, shall act in an independent capacity and not as officers or employees or agents of the State.
15. Add the following Article 72 at the end of Document 00700, "General Conditions":
72. RECYCLING CERTIFICATION: (a) The Contractor shall certify in writing under penalty of perjury, the minimum, if not exact, percentage of post-consumer material as defined in the Public Contract Code Section 12200, in products, materials, goods, or supplies offered or sold to the State regardless of whether the product meets the requirements of Public Contract Code Section 12209. With respect to printer or duplication cartridges that comply with the requirements of Section 12156(e), the certification required by this subdivision shall specify that the cartridges so comply (Pub. Contract Code §12205).

(b) **REPORTING OF RECYCLED CONTENT CERTIFICATION:** In accordance with Public Contract Code Sections 12200-12217, et. Seq. and 12153-12156, et. Seq. the Contractor must complete and return form DWR 9557, Recycled Content Certification, for each required product to SFCWA at the conclusion of the services specified in this contract. Form DWR 9557 is attached to this Document and made part of this contract by this reference.
16. Add the following Article 73 at the end of Document 00700, "General Conditions":
73. NON-DISCRIMINATION CLAUSE: During the performance of this Agreement, Contractor and its subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (e.g., cancer), age (over 40), marital status, and denial of family care leave. Contractor and subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Contractor and subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code §12990 (a-f) et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Agreement by reference and made a part hereof as if set forth in full. Contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other Agreement. Contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Agreement.
17. Add the following Article 74 at the end of Document 00700, "General Conditions":
74. CERTIFICATION CLAUSES: The CONTRACTOR CERTIFICATION CLAUSES contained in the document CCC 307 are hereby incorporated by reference and made a part of this Agreement by this reference as if attached hereto.
18. Add the following Article 75 at the end of Document 00700, "General Conditions":

75. COMPENSATION: The consideration to be paid Contractor, as provided herein, shall be in compensation for all of Contractor's expenses incurred in the performance hereof, including travel, per diem, and taxes, unless otherwise expressly so provided.

19. Add the following Article 76 at the end of Document 00700, "General Conditions":

76. GOVERNING LAW: This contract is governed by and shall be interpreted in accordance with the laws of the State of California.

20. Add the following Article 77 at the end of Document 00700, "General Conditions":

77. ANTITRUST CLAIMS: The Contractor by signing this agreement hereby certifies that if these services or goods are obtained by means of a competitive bid, the Contractor shall comply with the requirements of the Government Codes Sections set out below.

(a) The Government Code Chapter on Antitrust claims contains the following definitions:

1. "Public purchase" means a purchase by means of competitive bids of goods, services, or materials by the State or any of its political subdivisions or public agencies on whose behalf the Attorney General may bring an action pursuant to subdivision (c) of Section 16750 of the Business and Professions Code.
2. "Public purchasing body" means the State or the subdivision or agency making a public purchase. Government Code Section 4550.
 - b. In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder. Government Code Section 4552.
 - c. If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under this chapter, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery. Government Code Section 4553.
 - d. Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under this part if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action. See Government Code Section 4554.

21. Add the following Article 78 at the end of Document 00700, "General Conditions":

78. CHILD SUPPORT COMPLIANCE ACT: For any Agreement in excess of \$100,000, the contractor acknowledges in accordance with Public Contract Code 7110, that:

- e. The contractor recognizes the importance of child and family support obligations and shall fully comply with all applicable state and federal laws relating to child and family support enforcement, including, but not limited to, disclosure of information and compliance with earnings assignment orders, as provided in Chapter 8 (commencing with section 5200) of Part 5 of Division 9 of the Family Code; and
- f. The contractor, to the best of its knowledge is fully complying with the earnings assignment orders of all employees and is providing the names of all new employees to the New Hire Registry maintained by the California Employment Development Department.

22. Add the following Article 79 at the end of Document 00700, "General Conditions":

79. UNENFORCEABLE PROVISION: In the event that any provision of this Agreement is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Agreement have force and effect and shall not be affected thereby.

23. Add the following Article 80 at the end of Document 00700, "General Conditions":

80. PRIORITY HIRING CONSIDERATIONS: If this Contract includes services in excess of \$200,000, the Contractor shall give priority consideration in filling vacancies in positions funded by the Contract to qualified recipients of aid under Welfare and Institutions Code Section 11200 in accordance with Pub. Contract Code §10353.

24. Add the following Article 81 at the end of Document 00700, "General Conditions":

81. SMALL BUSINESS PARTICIPATION AND DVBE PARTICIPATION REPORTING REQUIREMENTS:

- g. If for this Contract Contractor made a commitment to achieve small business participation, then Contractor must within 60 days of receiving final payment under this Contract (or within such other time period as may be specified elsewhere in this Contract) report to the awarding department the actual percentage of small business participation that was achieved. (Govt. Code § 14841.)
- h. If for this Contract Contractor made a commitment to achieve disabled veteran business enterprise (DVBE) participation, then Contractor must within 60 days of receiving final payment under this Contract (or within such other time period as may be specified elsewhere in this Contract) certify in a report to the awarding department: (1) the total amount the prime Contractor received under the Contract; (2) the name and address of the DVBE(s) that participated in the performance of the Contract; (3) the amount each DVBE received from the prime Contractor; (4) that all payments under the Contract have been made to the DVBE; and (5) the actual percentage of DVBE participation that was achieved. A person or entity that knowingly provides false information shall be subject to a civil penalty for each violation. (Mil. & Vets. Code § 999.5(d); Govt. Code § 14841.).

25. Add the following Article 82 at the end of Document 00700, "General Conditions":

82. LOSS LEADER: If this contract involves the furnishing of equipment, materials, or supplies then the following statement is incorporated: It is unlawful for any person engaged in business within this state to sell or use any article or product as a "loss leader" as defined in Section 17030 of the Business and Professions Code. (PCC 10344(e).).

26. Add the following Article 83 to the end of Document 00700, "General Conditions":

83. RENEWAL OF CCC: Contractor shall renew the Contractor Certification Clauses or successor documents every (3) years or as changes occur, whichever occurs sooner.

27. Add the following Article 84 to the end of Document 00700, "General Conditions":

84. CONFLICT OF INTEREST:

- i. Current and Former State Employees: Contractor should be aware of the following provisions regarding current or former state employees. If Contractor has any questions on the status of any person rendering services or involved with the Agreement, the awarding agency must be contacted immediately for clarification.

1. Current State Employees: (PCC § 10410)

(a) No officer or employee shall engage in any employment, activity or enterprise from which the officer or employee receives compensation or has a financial interest and which is sponsored or funded by any state agency, unless the employment, activity or enterprise is required as a condition of regular state employment.

(b) No officer or employee shall contract on his or her own behalf as an independent contractor with any state agency to provide goods or services.

2. Former State Employees: (PCC §10411)

(a) For the two-year period from the date he or she left state employment, no former state officer or employee may enter into a contract in which he or she engaged in any of the negotiations, transactions, planning, arrangements or any part of the decision-making position in the same general subject area as the proposed contract within the 12-month period prior to his or her leaving state service.

(b) For the twelve-month period from the date he or she left state employment, no former state officer or employee may enter into a contract with any state agency if he or she was employed by that state agency in a policy-making position in the same general subject area as the proposed contract within the 12-month period prior to his or her leaving state service.

j. Penalty for Violation:

(a) If the Contractor violates any provisions of above paragraphs, such action by Contractor shall render this Agreement void. (PCC §10420)

k. Members of Boards and Commissions:

(a) Members of boards and commissions are exempt from this section if they do not receive payment other than payment of each meeting of the board or commission, payment for preparatory time and payment for per diem. (PCC §10430 (e))

l. Representational Conflicts of Interest:

The Contractor must disclose to the DWR Program Manager any activities by the Contractor or Subcontractor personnel involving representation of parties, or provision of consultation services to parties, who are adversarial to DWR. DWR may immediately terminate this contract if the contractor fails to disclose the information required by this section. DWR may immediately terminate this contract if any conflicts of interest cannot be reconciled with the performance of services under this contract.

m. Financial Interest in Contracts:

Contractor should also be aware of the following provisions of Government Code §1090:

“Members of the Legislature, state, county district, judicial district, and city officers or employees shall not be financially interested in any contract made by them in their official capacity, or by any Body or Board of which they are members. Nor shall state, county, district, judicial district, and city officers or employees be purchasers at any sale or vendors at any purchase made by them in their official capacity.”

n. Prohibition for Consulting Services Contracts:

For consulting services contracts (see PCC §10335.5), the Contractor and any Subcontractors (except for Subcontractors who provide services amounting to 10 percent or less of the contract price) may not submit a bid/SOQ, or be awarded a contract, for the provision of services, procurement of goods or supplies or any other related action which is required, suggested, or otherwise deemed appropriate in the end product of such a consulting services contract (see PCC §10365.5).

28. Add the following Article 85 at the end of Document 00700, “General Conditions”:

85. DARFUR CONTRACTING ACT CERTIFICATION: Public Contract Code Sections 10475-10481 applies to any company that currently or within the previous three years has had business activities or other operations outside of the United States. For such a company to proposal on or submit a proposal for a State of California contract, the company must certify that it is either a) not a scrutinized company; or b) a scrutinized company that has been granted permission by the Department of General Services to submit a proposal.

29. Add the following Article 86 at the end of Document 00700, “General Conditions”:

86. POLITICAL REFORM ACT REQUIREMENTS:

o. Form 700 Disclosure:

The Department of Water Resources (DWR) considers that the Contractor, Subcontractor(s), and/or their key staff may be a consultant, i.e. a public official, within the meaning of the Political Reform Act, specifically Government Code §82048 and Title 2, California Code of Regulations §18701. Accordingly, as specified by DWR, such persons shall complete and submit to the DWR Personnel Officer a Form 700, Statement of Economic Interests, within 30 days of the earlier of the date work commences or the effective date of this agreement, updated both annually and when changes in key staff or duties occur. The financial interests disclosed shall be for Disclosure Category 1. Contractors may access the Form 700 on the Fair Political Practices Commission website at www.fppc.ca.gov. Any questions regarding completion of the Form 700 should be addressed to the FPPC at its website or at (866) 275-3772 (866/ASK-FPPC). A leaving office statement must also be filed upon completion of all contract assignments.

p. Financial Conflict of Interest Prohibition: Contractor must review the Form 700s filed by its key staff and Subcontractors and determine whether, in light of the interests disclosed, performance under the contract could violate Government Code §87100 provides:

‘No public official at any level of state or local government shall make, participate in making or in any way attempt to used his official position to influence a governmental decision in which he knows or has reason to know he has a financial interest.’

q. Consequences of Failure to Comply with Political Reform Act Requirements: Any one of the following shall constitute a breach of this Contract and shall be grounds for immediate termination of this Contract:

1. Failure to complete and submit all required Form 700s within the 30-day period as required in paragraph A above, or respond to any request from the DWR Personnel Officer for additional information regarding any such Form 700s;
2. Failure to notify DWR of a potentially disqualifying conflict of interest;
3. The determination by DWR or the Contractor that any individual, who is a Contractor, Subcontractor, and/or a key member of their staff, has a financial interest that could result in a violation of Government Code §87100 provided, however, that DWR may opt to waive such breach if the Contractor replaces any such individual within two working days after a determination of such financial interest.

30. In Document 00700, “General Conditions,” change subparagraph (b) to read as following. Subparagraphs (b)(1) through (b)(7) remain unchanged:

Time of Completion – The Contractor shall complete all or any designated portion of the work called for under the Contract in all parts and requirements within the timeframes and milestones set forth in Section 01010.

END OF DOCUMENT

SECTION 01010 SUMMARY OF WORK

PART 1 GENERAL

1.01 GENERAL

- A. It is required that the Tule Red Tidal Restoration Project – Phase 1 shall be constructed and completed in accordance with the drawings and specifications.

Description:

The Tule Red Tidal Restoration Project – Phase 1 is located in Solano County’s Grizzly Bay Region of the Suisun Marsh. The Phase 1 excavation will require excavation and placement of material within about 300 feet of the open water of Grizzly Bay on a marsh surface which is below daily high tide elevations. The project area is generally protected from tidal inundation by a natural berm along the western edge of the project area although some overtopping of this berm does occasionally occur. The Phase 1 project will excavate habitat features including marsh ponds, tidal pannes, and four different sizes of channel referred to as 1st, 2nd, 3rd, and 4th order channels out of the existing marsh. Approximately 304,450 cubic yards of soil will be excavated to create these features. Approximately 249,100 cubic yards of the excavated soil will require controlled placement as fill to construct the North and South Habitat Berms, Marsh Ridge, Maintenance Berm, Marsh Rim, Tidal Pannes, and a new permanent access crossing. Controlled placement includes placing fill in lifts meeting optimum moisture content and minimum compaction requirements. The remaining excavated material will be cast across the site to fill existing ditches as well as create Marsh Berms and Marsh Mounds. Additional work items include the removal of existing pedestrian bridges and duck blinds, as well as placement of culverts and water control gates. Connection of the new channels to the open bay, as well as removal of existing tide gates and duck club clubhouse will be completed under a separate contract after vegetation has established.

1.02 BEGINNING AND COMPLETION OF THE WORK

- A. The Contractor shall begin work within **5** calendar days after receipt by the Contractor of the Notice to Proceed (NTP), and shall complete all the work included in the Contract within the timeframes set forth in the below table.

Milestone	Date	Designated Portion of work subject to Milestone	Included Inclement Weather Days	Liquidated Damages
Milestone 1	No later than September 30, 2016	Third order channel excavation and fill associated with Permeant Access Crossing Tier 1 lift under Bid Item A3.	2 days from the NTP through September 30, 2016	\$1,000/day
Milestone 2	No later than October 15, 2016	Erosion control and related activities associated for Milestone 1 work under Bid Item A5.	3 days from October 1, 2016 through October 15, 2016	
Notice to Commence Site Preparation and Mowing	No earlier than April 15, 2017			
Notice to Resume Earthwork Construction	No later than June 1, 2017			
Milestone 3	No later than September 30, 2017	Earthwork and related activities associated with Bid Items A2, remaining A3, B3 through B14, and B16	5 days from June 1, 2016 through September 30, 2017	
Milestone 4	No later than October 15, 2017	Site restoration, seeding, and erosion control and related activities associated with Bid Items B17 through B22.	3 days from October 1, 2017 through October 15, 2017	\$2,000/day
Final Completion	No later than October 31, 2017	All remaining work		\$500/day

Summary of Work

- B. The Owner expects to have all permits issued to allow construction of the project such that a Notice to Proceed will be issued no later than September 1, 2016. If the Notice to Proceed is delayed, then the milestone day for each Milestone and the date for the Final Completion will be delayed one day for each day (or part thereof) that the NTP is delayed past September 2, 2016.
- C. An allowance for non-working days caused by inclement weather is included in each milestone period as set forth in Section 1.02A. Time adjustments beyond the included weather days allowance will only be considered for each milestone respectively where current controlling operations, as defined in Section 00700 paragraph 13.(b)(3) are delayed. The Contractor shall show the weather days allowance for each milestone as a separate identifiable critical activity labeled "Weather Days Allowance" to be included as the last critical activity of each Milestone in the Contractor's Baseline CPM Schedule and all CPM Schedule updates.
- D. Non Working Days. Due to site specific constraints and anticipated working conditions, for the purpose of Contract the time from October 16 through April 14 are non-working days and no time adjustments will be made due to weather conditions during this period.

1.03 LIQUIDATED DAMAGES

- A. Failure to Complete Work: Liquidated damages provided for by Section 30 of the Document 00700, "General Conditions" are set per the following schedule:
 - 1. Contractor shall pay Owner the amount of \$1,000 per calendar day after the specified time in paragraph 1.02A if the Contractor fails to complete the work associated with Milestone 1.
 - 2. Contractor shall pay Owner the amount of \$2,000 per calendar day after the specified time in paragraph 1.02A if the Contractor fails to complete the work associated with Milestone 4.
 - 3. Contractor shall pay Owner the amount of \$500 per calendar day after the specified time in paragraph 1.02A if the Contractor fails to complete all remaining work called for under the Contract.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01011 SPECIFICATIONS, CONTRACT DRAWINGS AND AS-BUILT DRAWINGS

PART 1 GENERAL

1.01 GENERAL

- A. It is intended that the information pertaining to conditions that may affect the cost of the work will be shown on the contract drawings or indicated in the specifications; however, SFWCA does not warrant the completeness or accuracy of such information. The Contractor shall ascertain the existence of conditions that would affect the cost of the work which would have been disclosed by a reasonable examination.
- B. Existing improvements visible at the jobsite for which no specific disposition is made on the contract drawings but which could reasonably be assumed to interfere with the satisfactory completion of the improvements contemplated by the contract drawings shall be removed and disposed of by the Contractor.
- C. SFWCA will furnish to the Contractor a CD that contains PDFs of the full-size contract drawings, specifications text and addenda.

1.02 REVISED CONTRACT DRAWINGS AND SPECIFICATIONS

- A. If revisions to the contract drawings or specifications or additional detailed drawings are made during the progress of work, SFWCA will provide copies of them in accordance with the schedule stated above.
- B. The latest revision of a contract drawing or specification shall supersede all previous copies of the contract drawing or specification. The Contractor shall make certain that the latest revised contract drawings and specifications are used on the job.

1.03 AS-BUILT AND RECORD DRAWINGS

- A. The Contractor is required to maintain all records of as-built construction items where they are different from the contract drawings provided before and during the construction of the project.
- B. The Contractor shall prepare as-built drawings as follows:
 - 1. Promptly after receipt of the Notice to Proceed, the Contractor shall set aside and maintain two copies of the full size drawings as "as-built" drawings.
 - 2. As construction progresses, the Contractor shall prepare survey field notes and mark up the two sets of as-built drawings to document changes in the work as they occur. The survey field notes shall include sketches and measurements in sufficient detail to allow development of the as-built drawings. On the as-built drawings, the Contractor shall maintain the markup of changes on both drawing sets on a continuous basis. The as-built drawings shall also incorporate the survey field notes. Changed work or conditions of the work covered up or concealed by the Contractor in advance of recordation on the as-built drawings shall be uncovered to allow accurate recordation of the change, then recovered, all at the Contractor's expense.
 - 3. Changes shall be marked directly on the drawings. Green color-coding shall be used when showing information deleted from Drawings. Red color-coding shall be used when showing information added to Drawings. Blue color shall be used for clouding an area or areas affected by the change(s). Information shall be legible and completely detailed. The level of detail shall be sufficient to allow a draftsman to incorporate the changes into a CAD file without reference to other documents besides the marked-up drawing(s). It is not acceptable to simply reference change directives or to mark drawings: "see RFI-XX" or "see survey notes". If there is insufficient space on a drawing to markup the change, the Contractor will be required to draw additional sketches to completely explain the change and attach the sketches to the drawing.
 - 4. The Engineer has the right to inspect the Contractor's marked-up drawings at any time to ascertain that they are being kept up to date and show sufficient details. The Engineer may require that all as-built records, survey field notes and other documentation be submitted at the completion of certain construction elements of the overall project. Should the Contractor's marked-up drawings, survey field notes, and other as-built documentation not be up to date or lack necessary details, the Engineer may withhold 5 percent from each monthly progress payment, until the drawings, survey field notes and other as-built documentation are brought up to date and properly detailed.

- C. At completion of the work, the Contractor shall submit to the Engineer all such records, including complete as-built drawings and survey information documenting changes in the construction. Final payment will be withheld until as-built drawings and record information are submitted and deemed acceptable.

PART 2 **PRODUCTS (NOT USED)**

PART 3 **EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01025
MEASUREMENT AND PAYMENT**

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. This Section specifies administrative and procedural requirements to define pay items and determine payable amounts, and includes but is not limited to:

1. General Provisions
2. Cash Allowances
3. Work Not Paid for Separately
4. Measurement for Payment
5. Partial Payment for Stored Materials and Equipment
6. Payments For Final Pay Items

1.02 GENERAL PROVISIONS

A. This specification includes standard descriptions for all bid items. This Contract's specific bid items are listed in the Bid Schedule.

B. The total Contract Amount shall cover the Work required by the Contract Documents. All costs in connection with the successful completion of the Work, including furnishing all materials, equipment, supplies, and appurtenances; providing all construction, equipment, and tools; and performing all necessary labor and supervision to fully complete the Work, shall be included in the Unit, Lump Sum, and Final Pay prices bid. All Work not specifically set forth as a pay item in the Bid Form shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the prices bid.

C. If used, all estimated quantities stipulated in the Bid Schedule or other Contract Documents are approximate and are to be used only (a) for the purpose of comparing the bids submitted for the Work, and (b) as a basis for determining an initial Contract Amount. The actual amounts of Work completed and materials furnished under unit price items may differ from the estimated quantities. SFCWA does not expressly or by implication represent that the actual quantities involved will correspond exactly to the quantities stated in the Bid Schedule; nor shall the Contractor plead misunderstanding or deception because of such estimate or quantities or of the character, location or other conditions pertaining to the Work. Payment to the Contractor will be made only for the actual quantities of work performed or material furnished in accordance with the Drawings and other Contract Documents, and it is understood that for Unit Price items, the quantities may be increased or decreased as provided in the General Conditions.

D. If used, the unit prices listed in the Bid Schedule shall include all services, obligations, responsibilities, labor, materials, devices, equipment, royalties and license fees, supervision, temporary facilities, construction equipment, bonds, insurance, taxes, clean up, traffic control, control surveys, field offices, close out, overhead and profit and all connections, appurtenances and any other incidental items of any kind or nature, as are necessary to complete the Work in accordance with the Contract Documents.

Measurement and Payment

E. When an item of work is designated as (FP) in the Bid Schedule of Document 00310, "Bidding Sheet", the estimated quantity for that item of work shall be the Final Pay quantity, unless the dimensions of any portion of that item are revised by the Engineer, or the item or any portion of the item is eliminated. If a Final Pay item is eliminated, the Final Pay quantity will be revised in the amount represented by the eliminated portion of the item of work. The estimated quantity for each item of work designated as (FP) in the Bid Schedule of Document 00310, "Bidding Sheet", shall be considered as approximate only, and no guarantee is made that the quantity which can be determined by computations, based on the details and dimensions shown on the plans or as measured in the field will equal the estimated quantity. No allowance will be made in the event that the quantity based on estimated computations or as measured in the field does not equal the estimated quantity.

F. Except for mobilization/demobilization and project record documents, payment for Work will be based on the percent of completed work of each item in the Schedule of Values, including stored materials, as determined by the SFCWA. Progress of work in each item of the Schedule of Values will be determined separately by the SFCWA. However, the SFCWA will issue a single payment certificate for progress on the Contract.

G. The Contractor agrees that it will make no claim for damages, anticipated profits, or otherwise because of any difference between the amounts of work actually performed and materials actually furnished and the estimated amounts therefore.

H. Where payment by scale weight is specified under certain items, the Contractor shall provide suitable weighing equipment which shall be kept in accurate adjustment at all times and certified. The weighing of all material shall be performed by the Contractor in the presence and under the supervision of the SFCWA.

I. All schedules included in the Contract Documents are given for convenience and are not guaranteed to be complete. The Contractor shall assume all responsibility for the making of estimates of the size, kind, and quantity of materials and equipment included in work to be done under this Contract.

J. Where pipe fittings are noted on the Drawings, such notation is for the Contractor's convenience and does not relieve the Contractor from laying and jointing different or additional items where required.

K. All contracts shall be subject to 5% minimum retainage as defined in the General Conditions and the Agreement.

L. Where specific lump-sum allowance bid items have been entered on the bid form by the Owner, that total amount entered on the bid form shall be included in the Contractor's bid. However, the total amount paid to the Contractor shall be that portion of the lump-sum allowance actually utilized in the course of completing the work, as determined by the Engineer and agreed upon by the Contractor. The amount of the lump-sum allowance shall be adjusted accordingly by Change Order to recognize the allowable cost incurred by the Contractor.

1.03 WORK NOT PAID FOR SEPARATELY

A. Delivery: Payment for equipment delivery, storage or freight shall be included in the pay items including their installation and no other separate payment will be made therefore.

B. Bonds: Payment for bonds required by the Contract shall be included in the pay items for the Work covered by the required bonds and no separate payment will be made.

C. Preparation of Site: Payment for preparation of site shall be included in pay items proposed for the various items of Work and no separate payment will be made therefore. Preparation of site includes setting up construction plant, offices, shops, storage areas, sanitary and other facilities required by the specifications or state law or regulations; providing access to the site; obtaining necessary permits and licenses; payments of fees; general protection, temporary heat and utilities including electrical power; providing shop and working drawings, certificates and schedules; providing required insurance; preconstruction photographs and videos; clearing and grubbing; removal of existing pavements, sidewalks and curbs; trench excavation, sheeting, shoring and bracing; dewatering and disposal of surplus water; structural fill, backfill, compaction and grading; testing materials and apparatus; maintenance of drainage systems; appurtenant work; record drawing and close-out documentation; cleaning up; and all other work regardless of its nature which may not be specifically referred to in a Bid Item but is necessary for the complete construction of the project set forth by the Contract.

D. Permitting & Permit Fees.

E. SFCWA reserves the right to delete any item included in the Schedule of Values and decrease the Contract Price by the scheduled amount for the item deleted.

1.04 MEASUREMENT FOR PAYMENT

A. Methods of Measurement - Generally:

1. Units of measurement shall be defined in general terms as follows:
 - a. Linear Feet (LF)
 - b. Square Feet (SF)
 - c. Square Yards (SY)
 - d. Cubic Yards (CY)
 - e. Each (EA)
 - f. Sacks (SK)
 - g. Lump Sum (LS)
2. Unit Price Contracts/Items:
 - a. Linear Feet (LF) shall be measured along the horizontal length of the centerline of the installed material, unless otherwise specified. Pipe shall be measured along the length of the completed pipeline, regardless of the type of joint required, without deduction for the length of valves or fittings. Pipe included within the limits of lump sum items will not be measured.
 - b. Square Feet (SF), Square Yards (SY), Cubic Yards (CY), Each (EA) and Sacks (SK) shall be measured as the amount of the unit of measure installed and compacted within the limits specified and shown in the Specifications and Drawings. Slope angles and elevations shall be measured using land-surveying equipment. Contractor shall provide supporting documentation (i.e. drawings, delivery tickets, invoices, survey calculations, etc.) to verify actual installed quantities.

B. Lump Sum and Final Pay Contracts/Items - Generally:

1. Quantities provided in the Schedule of Values are for the purpose of estimating the completion status for progress payments. Payment will be made for each individual item on a percentage of completion basis as estimated by the Contractor and approved by SFWCA.
2. Adjustments to costs provided in the accepted Schedule of Values may be made only by Change Order.
3. SFCWA reserves the right to delete any item included in the Schedule of Values and decrease the Contract Price by the scheduled amount for the item deleted.

1.05 MEASUREMENT AND PAYMENT ITEMS

A. *Only those bid items included in Bid Schedules A and B are applicable for this Contract.* SFWCA has standardized the measurement and payment items. The sections and subsections are listed below using two scenarios. Schedule A measurement and payment will be used in the case of a

Measurement and Payment

shortened construction season in which case, two construction seasons will be required to complete the work (labeled as such in the Bid Item column), while both Schedules A and B items will be used for completion of work during one full construction season (also labeled as such in the Bid Item column) and are described fully in Document 00310.

All of the subsections have bid item measurement and payment descriptions. Several bid items in the Project Bid Schedule may be described with the same bid item measurement and payment description in Table A, "Measurement and Payment Items". The bid items in the Project Bid Schedule are related to the Section 01025 measurement and payment items as follows:

1. All of the bid items in the Project Bid Schedule have a minimum of one letter and one numerical digit ascending in order.
2. Table A, "Measurement and Payment Items" for each of the bid items there are a minimum of one letter and one numerical digit with the numerical digits ascending in order. Items similar in nature contain a dash followed by a lowercase letter in alphabetical order.
3. The first alphanumeric combination of the bid item in the Project Bid Schedule designate the measurement and payment item found in Table A, "Measurement and Payment Items."

Table A

BID ITEM	MEASUREMENT AND PAYMENT ITEMS Base Bid
Schedule A	
A1	Limited Work Mobilization and Demobilization
	<p>a. Measurement: Bid Item A1 includes, but is not limited to added costs for: obtaining bonds, insurance and financing; movement of equipment, materials and personnel to and from the job site; supervision, certificates, permits, submittals and RFIs; utilities, site maintenance, cleanup, dust control and work incidentals to the contract not specifically identified under the remaining items, or costs incurred prior to beginning work and after completion of work on the various contract items in the Schedule A Base Bid.</p> <p>b. Payment: The Contractor's payment for this item will be by Lump Sum as provided in Section 01505.</p>
A2	Stripping & Stockpiling
	<p>a. Measurement: Bid Item A2 includes, but is not limited to: all equipment, labor, and materials incidental to the stripping and stockpiling, and removal of mud from the existing drain channel for the Construction Access Ramp and Permanent Access Crossing Tier 1. Measurement shall be based on calculated area in Acres of stripping completed.</p> <p>b. Payment: The Contractor's payment for this item will by Acre.</p>
A3	Third Order Channel Excavation
	<p>c. Measurement: Bid Item A3 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the excavation of Third Order Channels in assemblies A, B, and C, hauling of excavated materials, and placement of excavated material as fill in the Permanent Access Crossing Tier 1 lift and Construction Access Ramp.</p> <p>a. Payment: The Contractor's payment for this item will be by Linear Foot of Constructed Third Order Channel.</p>
A7	Erosion Control Dust Control
	<p>d. Measurement: Bid Item A7 includes, but is not limited to: all equipment, labor, materials, and incidental work required to keep dust control on the site and access roads within legal limits and</p>

Measurement and Payment

	<p>the permit conditions. Dust control will also be used to keep unvegetated grading locations active, in addition to keeping soil conditions optimum for compaction.</p> <p>a. Payment: The Contractor’s payment for this item shall be Lump Sum.</p>
Schedule B	
B1	Mobilization and Demobilization
	<p>a. Measurement: Bid Item B1 includes, but is not limited to: obtaining bonds, insurance and financing; movement of equipment, materials and personnel to and from the job site; supervision, certificates, permits, submittals and RFIs; utilities, site maintenance, cleanup, dust control and work incidentals to the contract not specifically identified under the remaining items, or costs incurred prior to beginning work and after completion of work on the various contract items for construction in a second season.</p> <p>b. Payment: The Contractor’s payment for this item will be by Lump as provided in Section 01505 for the second season of construction.</p>
B2	Stripping, Stockpiling and Re-spreading
	<p>a. Measurement: Bid Item B2 includes but is not limited to: all equipment, labor, and materials incidental to the stripping, stockpiling, re-spreading, and imprinting of topsoil. Measurement shall based on calculated areas in Acres completed.</p> <p>b. Payment: The Contractor’s payment for this item shall be by the Acre.</p>
B3	Permanent Access Crossing – Tier 2
	<p>a. Measurement: Bid Item B3 includes, but is not limited to: all equipment, labor, and materials incidental to construction of the Permanent Access Crossing Tier 2 and subsequent lifts, procurement and placement of the culvert, procurement, transport, and installation of the slidegates, and procurement, transport and placement of the select fill around the culvert including Rock Riprap Facing.</p> <p>b. Payment: The Contractor’s payment for this item shall be by Lump Sum.</p>
B4	Demolition
	<p>a. Measurement: Bid Item B4 includes, but is not limited to: equipment, labor, material, and costs incidental to the demolition, transport and disposal of the existing pedestrian bridges called out on the plans and other debris uncovered during excavation including but not limited to piles, boat parts, tires, and other flotsam.</p> <p>b. Payment: The Contractor’s payment for this item shall be by Lump Sum.</p>
B5	Removal of Debris
	<p>a. Measurement: Bid Item B5 includes, but is not limited to: equipment, labor, material, and costs incidental to the demolition, transport and disposal of debris uncovered during excavation other than the identified walking bridges, duck blinds, and water control pipes and including but not limited to piles, boat parts, tires, and other flotsam. Measurement of this item shall be per Ton (2,000 pounds) as measured by a certified truck scale.</p> <p>b. Payment: The Contractor’s payment for this item shall be by Ton.</p>
B6	Muck & Channels Placement
	<p>a. Measurement: Bid Item B6 includes, but is not limited to: equipment, labor, material, and costs incidental to the excavation, transport, and placement of mud from the existing channel to the marsh pond bottoms. This item shall not be measured.</p> <p>b. Payment: The Contractor’s payment for this item shall be by Final Pay.</p>
B7	Marsh Pond Excavation

Measurement and Payment

	<p>a. Measurement: Bid Item B7 includes, but is not limited to: equipment, labor, material, and costs incidental to the excavation of the marsh ponds and existing brood pond ridge, transport of materials to fill locations, and fill of the South Habitat Berm, North Habitat Berm, Marsh Ridge, existing Marsh Rim, and/or Phase 2 Fill source locations.</p> <p>a. Payment: The Contractor's payment for this item shall be by Lump Sum.</p>
B8	Fourth-Order Channel Excavation
	<p>a. Measurement: Bid Item B8 includes, but is not limited to: equipment, labor, material, and costs incidental to the excavation of the fourth-order channel, transport of materials to fill locations, and fill of the South Habitat Berm, North Habitat Berm, Marsh Ridge, and/or Phase 2 Fill source locations.</p> <p>b. Payment: The Contractor's payment for this item shall be by Lump Sum.</p>
B9	Third-Order Channel Excavation
	<p>a. Measurement: Bid Item B9 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the excavation of Third Order Channels in assemblies D, E, F, G, H, I, J, K, L, M, N, and P, hauling of excavated materials, and placement of excavated material as fill on top of existing boat channels, and to build marsh berms, and marsh mounds.</p> <p>b. Payment: The Contractor's payment for this item shall be by Linear Foot.</p>
B10	Second-Order Channel Excavation
	<p>a. Measurement: Bid Item B10 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the excavation of Second Order Channels, hauling of excavated materials, and placement of excavated material as fill on top of existing boat channels, and to build marsh berms, and marsh mounds. This item shall not be measured.</p> <p>b. Payment: The Contractor's payment for this item shall be by Final Pay.</p>
B11	First Order Channel Excavation
	<p>a. Measurement: Bid Item B11 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the excavation of First Order Channels and sidecast placement of excavated material along the channel. This item shall not be measured.</p> <p>b. Payment: The Contractor's payment for this item shall be by Final Pay.</p>
B12	Tide Panne Excavation and Placement
	<p>a. Measurement: Bid Item B12 includes, but is not limited to: all equipment, labor, materials, and incidental work required for stripping of the Tide Panne footprints, excavation of the Tide Panne, placement of material in the Tide Panne perimeter berm, and dressing of top soil over the finished elevations.</p> <p>b. Payment: The Contractor's payment for this item shall be by Lump Sum.</p>
B13	Temporary Crossing Pipe
	<p>a. Measurement: Bid Item B13 includes, but is not limited to: all equipment, labor, materials, and incidental work required for placement of 36" diameter dual wall HDPE pipe and backfill at the temporary crossings over the Fourth Order Channel. Measurement shall be for each completed item.</p> <p>b. Payment: The Contractor's payment for this item shall be by Each crossing.</p>
B14	Temporary Drain Connection
	<p>a. Measurement: Bid Item B14 includes, but is not limited to: all equipment, labor, materials, and incidental work required for installing the temporary drain connection on the northern edge of the</p>

Measurement and Payment

	<p>project area.</p> <p>b. Payment: The Contractor's payment for this item shall be by Linear Foot.</p>
B15	Control of Water
	<p>a. Measurement: Bid Item B15 includes, but is not limited to: all equipment, labor, materials, and incidental work required for controlling both surface and subsurface water in the project footprint.</p> <p>b. Payment: The Contractor's payment for this item shall be by Lump Sum.</p>
B16	Repair of Existing Marsh Rim
	<p>a. Measurement: Bid Item B16 includes, but is not limited to: all equipment, labor, materials, and incidental work required for repairing the existing Marsh Rim.</p> <p>b. Payment: The Contractor's payment for this item shall be Lump Sum.</p>
B17	Noyce Slough Road Grading and Repair
	<p>a. Measurement: Bid Item B17 includes, but is not limited to: all equipment, labor, materials, and incidental work required for repairing and re-grading the Noyce Slough Road from the property gate to the existing club house.</p> <p>b. Payment: The Contractor's payment for this item shall be by Lump Sum.</p>
B18	Marsh Swale Wood Weirs
	<p>a. Measurement: Bid Item B18 includes, but is not limited to: all equipment, labor, materials, and incidental work required for installing the wood weirs in the marsh ridge swales. Measurement shall be for each completed item.</p> <p>b. Payment: The Contractor's payment for this item shall be per Each weir installed.</p>
B19	Erosion Control Seeding
	<p>a. Measurement: Bid Item B19 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the seeding of the north and south habitat berms, marsh ridge, maintenance berm and marsh rim. Measurement shall be based on calculated area in Acres completed.</p> <p>b. Payment: The Contractor's payment for this item shall be by the Acre.</p>
B20	Erosion Control Straw Wattles
	<p>a. Measurement: Bid Item B20 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the installation of Straw Wattles at the new hinge point of the habitat berm and Noyce Slough Road. Measurement shall be by fifty (50) foot increments.</p> <p>b. Payment: The Contractor's payment for this item shall be by Linear Foot.</p>
B21	Erosion Control Coir Fabric
	<p>a. Measurement: Bid Item B21 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the installation of Coir Fabric on the Marsh Ridge, Marsh Rim, Maintenance Berm, and Permanent Access Crossing.</p> <p>b. Payment: The Contractor's payment for this item shall be by Square Yard.</p>
B22	Erosion Control Dust Control
	<p>a. Measurement: Bid Item B22 includes, but is not limited to: all equipment, labor, materials, and incidental work required to keep dust control on the site and access roads within legal limits and the permit conditions. Dust control will also be used to keep un-vegetated grading locations</p>

Measurement and Payment

	<p>active, in addition to keeping soil conditions optimum for compaction.</p> <p>a. Payment: The Contractor’s payment for this item shall be by Lump Sum.</p>
B23	Clearing Allowance
	<p>a. Measurement: Bid Item B23 includes, but is not limited to: all equipment, labor, materials, and incidental work for Clearing all locations on site where there is cut, fill, haul routes, and any location where there is vehicular activity. This is an allowance item set at a budget of \$94,200.</p> <p>b. Payment: The Contractor’s payment for this item shall be as an Allowance Item as specified in this Section.</p>

Additive Bid Items shall be included in the work as under Contract Change Order per the procedures outlined in the General Conditions. If included in the work, Additive Bid Items shall be considered pursuant to the following provisions:

Table B

Additive Bid Items	
A4	Third-Order Channel Extensions (Additive Bid Item)
	<p>a. Measurement: Bid Item A4 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the excavation of Third Order Channels to connect lower order channel assemblies A, B, and C to the existing drain channel along the North Berm of the property, hauling of excavated materials, and placement of excavated material as fill in the Construction Access Ramp and Permanent Access Crossing Tier 1 Fill.</p> <p>b. Payment: The Contractor’s payment for this item shall be by Lineal Foot.</p>
A5	Erosion Control Coir Fabric (Additive Bid Item)
	<p>a. Measurement: Bid Item A5 includes, but is not limited to: all equipment, labor, materials, and incidental work required for the installation of coir fabric on the Permanent Access Crossing Tier 1 fill.</p> <p>b. Payment: The Contractor’s payment for this item shall be by Square Yard.</p>
A6	Temporary Pipe at Permanent Access Crossing (Additive Bid Item)
	<p>a. Measurement: Bid Item A6 includes, but is not limited to: all equipment, labor, materials, and incidental work required for placing a 36” diameter dual wall HDPE pipe through the Permanent Access Crossing and Construction Access Ramp prior to demobilizing from the first construction season, and removal and backfill of the pipes at the initiation of the second construction season. This bid item will be added if geotechnical conditions at the project site inhibit the crossing from being constructed in a single construction season.</p> <p>b. Payment: The Contractor’s payment for this item shall be each assembly installed.</p>

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

**SECTION 01040
PROJECT COORDINATION**

PART 1 GENERAL

1.01 SUBMITTALS

- A. The Contractor shall submit a statement of the qualifications of its proposed superintendent to the Engineer for review. The statement shall include the superintendent's name, the name of each project that is the basis of the qualifications, each project site location, a brief description of each project, and the name and mailing address of the owner for each project.

1.02 SUPERINTENDENCE

- A. The Contractor shall assign a duly authorized and competent person continually on the site during the work. The superintendent shall have successfully managed not less than five (5) habitat restoration projects involving earthwork within the last five (5) years as a contractor's general superintendent/project manager on heavy engineering earthwork.
- B. If the superintendent is not deemed qualified or if the superintendent's performance on the work is determined to be unsatisfactory by the Engineer, the superintendent shall be immediately removed from the project pursuant to Document 00700, "General Conditions," Section 50.
- C. The Contractor shall furnish to the Engineer a written statement of the qualifications of the proposed substitute superintendent if a substitute superintendent is required.
- D. A substitute superintendent shall meet the same requirements and shall be subject to approval by the Engineer.
- E. The Contractor shall coordinate site access, material supply, construction, and inspection to assure efficient and orderly completion of the project.
- F. The Contractor shall coordinate the mobilization of all equipment, materials, trailers, etc. with the Owner. The Contractor shall not mobilize any equipment, materials, trailers, etc. until environmental clearance has been issued by the Owner.
- G. The Contractor shall give the work the constant attention necessary to facilitate progress thereof and shall cooperate with the Owner and other Contractor(s) activities as required.
- H. The Contractor's personnel, agents, and subcontractors shall be restricted from entry to existing buildings and structures except as may be required by the work.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01050 CONSTRUCTION SURVEYING

PART 1 GENERAL

1.01 APPLICATION (NOT USED)

1.02 SUBMITTALS

A. Survey Records

1. The Contractor shall submit a set of drawings showing the control points proposed by the Contractor for constructing the work if different than shown on the drawings and a schedule for establishing this control. As the work progresses, subsequent changes to the control plan shall be submitted.
2. Original field books, field notebooks, and data from electronic data recorders shall be submitted to the Engineer at the conclusion of the project or upon request of the Engineer. This data will become the property of the SFCWA.

1.03 REQUEST FOR SURVEY SERVICES

- A. The Contractor shall give the Engineer advance notice of not less than 2 working days of the times and places work will be performed, so that bench marks or other control points specified or shown on the drawings to be set by the Engineer may be furnished, the right-of-way lines may be staked, and necessary check-surveying and measurements for records and payments may be made. Survey services will be available with 2 working day lead time.

1.04 RESPONSIBILITY FOR CONSTRUCTION SURVEYS

- A. The Engineer will establish and set a system of primary control to be used for establishing lines and grades required for the work. A comprehensive control system is shown on the drawings.
1. The Contractor shall be responsible for checking the positions of the various points of the primary control and shall notify the Engineer of discrepancies found between actual and record measurements.
 2. The Engineer will stake right-of-way lines and measure quantities for payment, when applicable.
 3. Protection of monuments and stakes, once set by the Engineer, shall be the responsibility of the Contractor.
 4. The Contractor shall provide all other survey services required for the work, including establishing and reestablishing construction control, resetting of stakes and monuments, and performing surveys needed for restoration of public and private improvements that have been damaged, destroyed, or relocated by the Contractor.

1.05 SECONDARY CONTROL

- A. From the primary control, the Contractor shall establish a network of secondary control points for the construction of the work. The secondary control shall have sufficient permanent points to establish the lines and grades for the various structures, pipelines, or other improvements either directly or by offset. Layout lines for constructing the work shall be taken directly from the secondary control.
- B. Secondary control shall be tied to and shall close upon the primary control. Secondary control networks shall be adjusted prior to use in developing subsequent control or in laying out the work.
- C. Unless this requirement is waived by the Engineer, the secondary control network set by the Contractor will be checked by the Engineer.
- D. Accepted secondary control points shall be used for the layout of work and for verification of the position of work subsequently checked by the Engineer. Work constructed from secondary control that has not been checked by the Engineer will be at the Contractor's risk.

1.06 ACCURACY OF SURVEYS

- A. For secondary control, the position of a control point relative to any other control point shall not differ from the Engineer's location of the same point by more than ± 0.02 foot. Prior to adjustment, vertical elevation surveys shall close to within 0.05 foot multiplied by the square root of the circuit length in miles.
- B. The Contractor's measurements for stakes, marks, or points set for line, grade, or distance shall be to the nearest 0.01 foot except as noted below:
1. Slope stakes for rough excavation may be set to the nearest 0.1 foot, horizontally and vertically unless specified by the Engineer.

2. Marsh Pond subgrade shall be established to within + 0.1 foot of plan subgrade.
 3. Pipe subgrade shall be set to within 0.02 foot of plan subgrade.
 4. Tolerances for the installation of embedded items, equipment, or other articles shall be governed by the limitations of each particular embedded item, item of equipment, or other article.
 5. Cut Elevations to be at or below 0.2 unless specified by the Engineer.
 6. Fill Elevations to be at or above 0.1 unless specified by the Engineer.
- C. Instruments shall be accurate and shall be subject to inspection by the Engineer to verify proper operation.
1. Electronic distance measuring (EDM) instruments used by the Contractor on the project shall be checked for calibration daily, minimum, on an established baseline approved by the Engineer. Calibration results shall be kept in a logbook, available for the Engineer's review, showing the date and distances measured on the baseline. An EDM instrument shall not be used if it does not meet the minimum accuracy published by the manufacturer.
 2. Defective instruments shall be promptly replaced, repaired, or adjusted to operate within the tolerances specified by the instrument manufacturer.
- D. The Contractor's measurements of line, grade, and distance will be subject to checking by the Engineer. Measurements that do not comply with the accuracy required by this section shall immediately be corrected by the Contractor.
1. The Contractor shall give the Engineer assistance and provide forms, ladders, spikes, nails, string lines, and utilities that may be required by the Engineer and shall adjust construction operations as necessary to enable the Engineer to perform this part of the survey work.

1.07 PROTECTION OF MONUMENTS, STAKES, AND MARKS

- A. Whenever any monuments that control the location of subdivisions, tracts, boundaries, roads, streets, or highways, or provide horizontal or vertical survey control are disturbed during construction, the Contractor shall follow the procedures set forth in Section 8771 of the California Business and Professions Code and as specified below. The Contractor shall provide to the Engineer copies of all documentation submitted to the applicable County.
- B. The Contractor shall preserve and protect all survey monuments and related marks within the SFCWA facility. When removal is necessary, the Contractor shall accurately reference the monuments or related marks subject to the approval of the Engineer.
1. Primary or secondary control monuments shall be reset by the Contractor as soon as the work requiring removal is complete. Alternatively, other control monuments may be set so as to reestablish the control network.
 2. The position of monuments, control points, or other marks that are subject to movement due to construction equipment or other forces shall be rechecked at regular intervals, but not less than monthly.
- C. The Contractor shall give the Engineer a notice of 2 working days prior to any necessary disturbance of a SFCWA property boundary monument. If the Contractor disturbs a SFCWA property boundary monument of record, the Contractor shall reimburse the SFCWA for resetting the monument.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01060 SAFETY AND REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUBMITTALS

- A. The Contractor shall submit a site-specific Injury and Illness Prevention Program (IIPP) covering all work and Contractor and subcontractor employees at the site.
- B. Permits: The Contractor shall submit copies of permits required by regulatory authorities and shall retain copies of the permits at the site.

1.02 REGULATORY REQUIREMENTS

- A. The citation or listing of specific laws, ordinances, or regulations in this and other sections of the specifications is not a complete inventory of the laws, ordinances, or regulations that apply to those engaged or employed on the work, materials used in the work, the conduct of the work, or the safety and protection of persons, property, and the environment. These citations shall not limit or diminish the Contractor's responsibility to keep fully informed of and observe and comply with laws, regulations, ordinances, codes, orders, rules, standards, or decrees of public bodies having jurisdiction, most of which are cited in the project MMRP.
- B. In the event a law, regulation, ordinance, code, order, rule, standard, or decree conflicts with a requirement of the Contract, the Contractor shall make a written request for direction from the Engineer.

1.03 PUBLIC SAFETY

- A. Whenever the Contractor's operations create a condition hazardous to the public, flagmen and guards shall be furnished as necessary to give adequate warning to the public of the hazard. The Contractor shall furnish, erect, and maintain fences, bridges, railings, barriers, lights, signs, and other devices as necessary to prevent accidents and avoid damage or injury to the public.

1.04 AIR QUALITY

- A. The Contractor shall perform the work in accordance with the requirements of all federal, state, and local regulatory agencies including:
 - 1. Bay Area Air Quality Management District (BAAQMD)
 - 2. California Air Resources Board (CARB)

See also Document 01065 Section 1.04.

1.05 SAFETY, HEALTH, AND PROTECTION

- A. The Contractor shall comply with safety standards established within the Cal/OSHA CCR Construction Safety Orders (CSO) and General Industry Safety Orders (GISO) that are applicable to the work. The Contractor shall have a complete copy of the CSO at the work site.
- B. A copy of the Contractor's IIPP and Code of Safe Practices, prepared in accordance with CCR Title 8 shall be kept at the site. Upon request, such documents shall be made available to the Engineer for review.
 - 1. The Contractor shall identify in writing to the Engineer the Contractor's "competent person" responsible for performing inspections of excavations and protection at excavations required by CCR Title 8.
 - 2. The Contractor shall revise the IIPP and Code of Safe Practices during the work as often as necessary to fit the operations and possible hazards.
- C. The Contractor shall ensure the safety of SFCWA employees. SFCWA employees will not be permitted to enter unsafe places for the purpose of making inspections except where an inspection is required to determine if previously detected unsafe conditions have been corrected. Where work is required to be inspected by the Engineer and the inspection is not performed due to the existence of an unsafe condition, the work shall be subject to rejection, or the work may be suspended in accordance with Section 13(a) of Document 00700, "General Conditions."
- D. The Contractor shall be responsible for preventing health hazards arising from work-related activities of employees.

Safety and Regulatory Requirements

- E. When possible, the Contractor shall notify the Engineer in advance of safety inspections by OSHA or other governmental safety agencies. The Engineer will attend safety inspections when notice is given sufficiently in advance for the Engineer to be present. When the Engineer is not present during a safety inspection, the Contractor shall immediately report to the Engineer that a safety inspection has taken place and shall advise the Engineer of violations, citations, or salient events arising from the inspection and of the Contractor's abatement actions.
- F. The Contractor shall ensure the availability of emergency medical services to workers on the site.
 - 1. Appropriately Trained Personnel: The Contractor shall ensure that a suitable number of appropriately trained personnel are available to render first aid. The names of these persons shall be made available to the Engineer upon request.
 - 2. First Aid Kit: The Contractor shall provide and maintain adequate first aid kits for the use of all persons employed on the work. The first aid supplies shall be in accordance with CCR Title 8 as a minimum.
- G. Safety Data Sheets (SDSs) shall be in accordance with Federal Standard 313C.
- H. Head Protection: All persons shall be required to wear ANSI-standard hard-hats while at the worksite; no bump caps will be permitted.

1.06 PROCESS SAFETY MANAGEMENT (NOT USED)

1.07 ACCIDENT REPORTING

- A. The Contractor shall report in writing to the Engineer on or before the 10th of each month stating:
 - 1. The number and character of all accidents during the previous month that resulted in loss of work time
 - 2. The total workforce employed on the Contract during the previous calendar month
 - 3. Other information that may be required by the Engineer relating to project injuries or accidents
- B. Accidents or incidents that cause property damage or personal injury shall be reported to the Engineer in writing as soon as possible, but in every case less than 24 hours after the incident.

1.08 VENTILATION (NOT USED)

1.09 ENVIRONMENTAL PROTECTION

- A. Hazardous Materials Storage: Hazardous materials shall be stored in covered, leak-proof containers when not in use, away from storm drains and heavy traffic areas, and shall be protected from rainfall infiltration. Hazardous materials shall be stored separate from non-hazardous materials, on a surface that prevents spills from permeating the ground surface, and in an area secure from unauthorized entry at all times. Incompatible materials shall be stored separately from each other.

1.10 PERMITS

- A. Contractor shall be responsible for all permits related to his actions.
- B. SFCWA shall be responsible for obtaining all State and Federal Permits pertaining to listed endangered species within the project footprint in addition to other necessary State and Federal Permits expected, as necessary, to perform the work as listed in Table 1 below:

Agency	Permit
U.S. Army Corps of Engineers	Section 404 of the Clean Water Act
U.S. Army Corps of Engineers	Section 10 of the Rivers & Harbors Act of 1899
U.S. Coast Guard	Possible coordination regarding breach of 4-th Order Channel to Grizzly Bay
U.S. Fish & Wildlife Service	Programmatic Biological Opinion & Site-Specific Biological Opinion
National Marine Fisheries Service	Programmatic Biological Opinion
CA State Water Resources Control Board	Storm Water Pollution Prevention Program (SWPPP)
CA Regional Water Quality Control Board	Section 401 of the Clean Water Act
Bay Conservation & Development Commission	Suisun Marsh Permit
Solano County	Grading and Use Permits
State of California	CEQA Addendum

1.11 CONTRACTOR'S RESPONSIBILITIES FOR IMPLEMENTING MITIGATION AND MONITORING REPORTING PROCEDURES (MMRP)

- A. The Contractor shall obtain all other permits and pay permit fees and inspection costs required by agencies and authorities having jurisdiction as stated in the project MMRP. The costs for the permits and inspections shall be included in the price entered in the Bidding Sheet.
- B. When the terms of permits obtained by either the Contractor or SFCWA require inspections by agencies or authorities other than SFCWA, the Contractor shall schedule the inspections and notify the Engineer a minimum of 24 hours prior to the inspection being performed.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01065 ENVIRONMENTAL REQUIREMENTS

PART 1 GENERAL

1.01 GENERAL

- A. The SFCWA holds the Contractor and all subcontractors liable for meeting the conditions stated herein and in all of the SFCWA permits and local, state, and federal environmental regulations, acts, laws, and ordinances.
- B. The Contractor shall obtain necessary local, state and federal environmental permits and shall comply with the requirements of all such permits and laws, regulations, acts, codes and ordinances. The SFCWA shall provide Contractor with copies of all environmental permits procured by the SFCWA.
- C. The Contractor shall perform all construction activities only within the construction boundaries shown on the drawings. The construction boundaries shall be fenced, unless otherwise directed by the Engineer. Any request to use any area outside the construction boundaries for any activity will require review and approval by the Engineer.
- D. The Contractor and all employees shall attend the Worker Environmental Awareness Plan (WEAP) meeting, with the Engineer and designated Monitor. The WEAP Meeting will inform all employees of the sensitivity of the area in which they will be working; environmental measures and requirements; the prevention of harm, harassment, injury, or death of wildlife; and, minimization or avoidance measures for sensitive resources.
- E. The Contractor shall notify the Engineer daily to any activity within Environmentally Sensitive Areas (ESAs) or Environmental Restricted Areas (ERAs) per the Mitigation Monitoring Program. The Contractor shall notify the Engineer of all proposed activities within ESAs to ensure compliance with all conditions and mitigation measures. The Engineer or Contractor, as directed by the Engineer, will flag or stake the limits of ESAs/ERAs. The Contractor shall flag or stake the ESAs/ERAs limits, as required by the Engineer.

1.02 SUBMITTALS

- A. The Contractor shall submit to the SFCWA the following for review and approval at least two weeks prior to the start of construction:
 - 1. All environmental or otherwise applicable permits procured by the Contractor.
 - 2. Dust Control Plan: The plan shall address requirements specified in this section and in Section 01060.

1.03 SITE ACTIVITIES

- A. The Contractor shall clear, grub, and strip construction areas as specified in Section 02110.
- B. No debris, soil, silt, sand, bark, slash, sawdust, asphalt, rubbish, paint, oil, cement or concrete or washings thereof, oil or petroleum products, or other organic or earthen materials from construction activities shall be allowed to enter into or placed where it may be washed by rainfall or runoff into ESAs or ERAs. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within ESAs or ERAs.
- C. The Contractor shall dispose of excess materials in approved off-site locations consistent with requirements of issued disposal permits and applicable local, state and federal laws and regulations. The Contractor is responsible for obtaining all environmental permits, and submitting them to the Engineer for approval at least 2 working days prior to site preparation or disposal of materials. Permission of property owner does not preclude the Engineer from rejecting a disposal site.
- D. The Contractor shall clean up all spills in accordance with all applicable environmental laws and regulations and notify the Engineer immediately in the event of a spill.
- E. Stationary equipment such as motors, pumps, and generators, shall be equipped with drip pans.
- F. Fueling or maintenance shall be done in accordance of the Mitigation Monitoring Program and SWPPP within ESAs/ERAs, or where petroleum products or other pollutants may enter these areas under any flow.
- G. The Contractor shall handle, store, apply, and dispose of chemicals and/or herbicides consistent with all applicable federal, state and local regulations.
- H. The Contractor shall dispose of all contaminated materials in a manner consistent with all applicable local, state and federal environmental laws and regulations.
- I. The Contractor shall not allow any equipment or vehicle storage within any drainage course or channels.

Environmental Requirements

- J. Any material placed in areas where it could be washed into a drainage course or channel shall be removed prior to the rainy season.
- K. Any equipment or vehicles that are approved to be driven and/or operated within drainage swales shall be checked and maintained daily to prevent leaks of materials.
- L. The Contractor shall not enter, stockpile materials, or drive through designated ERAs unless shown on plans or approved by Engineer.
- M. Staging and storage areas for equipment and material shall be located outside of ESAs/ERAs unless approved by Engineer.
- N. Unless otherwise shown on the drawings, the Contractor shall return all work and storage areas to original topographic conditions.
- O. The Contractor shall stabilize exposed slopes, streambeds and streambanks that are located within construction limits.
- P. The Contractor shall not create a nuisance or pollution as defined in the California Water Code. The Contractor shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Quality Control Board or the State Water Resources Control Board, as required by the Clean Water Act.
- Q. Dewatering activities shall not affect any vegetation outside of the construction limits. The Contractor shall submit proposed dewatering plans to the Engineer for approval prior to any dewatering activities.

1.04 AIR POLLUTION CONTROL

- A. The Contractor shall not discharge smoke, dust, or other air contaminants into the atmosphere in a quantity that exceeds the legal limit.
- B. The Contractor shall shut-off all idling vehicles when not in use after 5 minutes, or 2 minutes on “Spare The Air” days which are posted on the Bay Area Air Quality Management District (BAAQMD) at baaqmd.gov.
- C. Impacts related to air quality and greenhouse gases (GHGs) shall be within the scope of the impacts identified in the SMP EIS/EIR, below the BAAQMD thresholds, and remain less than significant. The SMP EIS/EIR emission thresholds are identified in the table below.

Table 1. Thresholds of Significance for Project Construction

Pollutants	Lbs/day
ROG	54
NO _x	54
SO ₂	219
PM ₁₀	82
PM _{2.5}	54

Source: Suisun Marsh Habitat Management Preservation and Restoration Plan Final EIS/EIR, ICF 06888.06 November 2011.

- D. Construction equipment shall be maintained, and properly tuned and operated in a manner so as to reduce peak emission levels.
- E. Construction methods shall include dust reduction activities, including the use of water trucks in construction areas. The Contractor shall spray water on all unpaved roads as often as required to minimize dust and particulates, and as determined by Engineer.
- F. The Contractor shall use low emission mobile construction equipment during site preparation, grading, excavation, and construction of the project.
- G. The Contractor shall use existing onsite power sources (e.g., power poles) rather than portable generators when feasible and as directed by the Engineer; or clean fuel generators shall be used rather than temporary power generators when feasible.

- H. The Contractor shall cover all trucks transporting earthen material or maintain at least two feet of freeboard.
- I. Traffic speeds on all unpaved roads shall be [15] mph or less.
- J. The Contractor shall follow all commitments listed in the Mitigation Monitoring and Reporting Program.

1.05 BIOLOGICAL RESOURCES

- A. As part of the project, the following procedures will be implemented to avoid adverse impacts to sensitive biological resources, especially the Salt Marsh Harvest Mouse. A qualified biologist will be present onsite during the work to monitor all construction activities and to ensure that these procedures are implemented. Additional conservation measures have been added, refer to Appendix B.
 - 1. The Contractor and the Engineer shall review the rough grading plans, flagging, and staking to ensure that the grading is within the project footprint and construction limits are accurate, as described in the drawings. All temporary fencing or other markers shall be clearly visible to construction personnel.
 - 2. Prior to any construction or grading activities, the monitor will provide education to all project personnel regarding the prevention of harm, harassment, injury, or death of wildlife and minimization or avoidance of sensitive resources. The instruction shall be given as often as necessary to ensure that all personnel working on site are adequately briefed in the matter.
 - 3. The monitor will be empowered to temporarily halt construction activities and make recommendations to ensure impact minimization, compliance with the relevant provisions of all environmental permits and regulations, and that work does not take place in habitat areas outside the clearing limits.
 - 4. No construction access, parking, or storage of equipment or materials will be permitted within ESAs, unless approved by the Engineer.
 - 5. No physical disturbance of vegetation, structures, or other potential habitat that may support nesting birds protected by the Migratory Bird Treaty Act and California Fish and Game Code 3503 shall occur in the breeding season, except as necessary to respond to public health and safety concerns, or otherwise authorized by the Engineer. The breeding season is listed in the Mitigation Monitoring Program.
 - a. If nesting habitat must be cleared within this period, the SFCWA biologist will perform a nesting bird survey according to the Mitigation Monitoring program.
 - b. If active nests for sensitive species, raptors and/or migratory birds are observed, an adequate buffer zone may be established, as identified by the monitoring biologist and approved by the Engineer, until the young have fledged and are no longer reliant on the nest.
 - c. The biologist will monitor active nesting bird habitat within or immediately adjacent to project construction areas and the Engineer will provide necessary recommendations to the Contractor to minimize or avoid impacts to protected nesting birds.
- B. As part of the project, the following procedures will be implemented to avoid adverse impacts to trees located within the project work limits:
 - 1. Impacts to any trees located within the project work limits shall be avoided, when possible.
 - 2. No trees within project work limits shall be removed, cut, or trimmed unless identified for removal on project drawings.
 - a. If trees must be removed, cut or trimmed, this activity must be conducted per any applicable local tree ordinances and any required permits must be obtained prior to any tree removal, cutting or trimming.
 - b. Contractor shall avoid stockpiling of materials, and driving or parking vehicles and equipment under the canopy of existing trees to protect tree root systems and avoid damage to the trees.
 - 3. Trees designated for removal in the construction drawings shall be removed outside the nesting season as described hereinabove.

1.06 CULTURAL AND PALEONTOLOGICAL RESOURCES

- A. Cultural and paleontological resources may include, but are not limited to: prehistoric artifacts, grave goods, funerary objects, human remains, historic can scatters, building foundations, historic buildings, structures, objects, and fossils.

Environmental Requirements

- B. The Contractor shall not infringe upon any areas identified as a cultural or paleontological area, whether they have been identified as an ESA/ERA or not. Any person identified trespassing upon restricted areas shall be immediately removed from the project.
- C. Archaeological and/or paleontological surveys of the project area have been conducted; however, discoveries of previously unknown archaeological and paleontological resources or buried deposits may be possible during construction.
- D. If archaeological or paleontological resources are encountered at the project site, the Contractor shall not disturb the resources and shall immediately:
 - 1. Cease all work within 50 feet of the discovery
 - 2. Notify the Engineer
 - 3. Protect the discovery area, as directed by the Engineer
 - 4. The Engineer, with the qualified architectural historian, archaeologist and/or paleontologist, will make a decision of validity of the discovery and designate an area surrounding the discovery as a restricted area. The Contractor shall not enter or work in the restricted area until the Engineer provides written authorization.
- E. Ground-disturbing activities shall be monitored by a qualified archaeologist or paleontologist.
 - 1. The Engineer and monitor shall conduct a review of the location for the boundaries of the archaeological/paleontological monitoring areas.
 - 2. Temporary fencing or other restricting features may be used to define the boundaries of the monitoring areas. The Contractor shall not work within the monitoring area boundaries unless the monitor is present.
 - 3. The Contractor shall submit to the Engineer, a schedule of days to be worked, at least five business days prior to work within the monitoring area.
 - 4. If any cultural materials are observed during ground disturbance, follow the procedure outlined hereinabove.

1.06 HUMAN REMAINS

- A. In the event that human remains are discovered during excavation/construction activity, Health and Safety Code Section 7050.5, CEQA Guidelines Section 15064.5 (e), and Public Resources Code section 5097.98 will apply. The Contractor shall notify the Engineer at once and not enter or work in the restricted area until the Engineer provides written authorization.

1.07 FIRE PROTECTION

- A. Gasoline-powered or diesel-powered machinery used during construction shall be equipped with standard exhaust controls and muffling devices that will also act as spark arrestors.
- B. Fire containment and extinguishing equipment shall be located onsite and shall be accessible during construction activities. Construction workers shall be trained in use of the fire suppression equipment.

1.08 HAZARDOUS MATERIALS STORAGE

- A. Hazardous materials shall be stored in covered, leak-proof containers when not in use, away from storm drains and heavy traffic areas, and shall be protected from rainfall infiltration. Hazardous materials shall be stored separately from non-hazardous materials, on a surface that prevents spills from permeating the ground surface, and in an area secure from unauthorized entry at all times. Incompatible materials shall be stored separately from each other.

1.09 LIGHT ABATEMENT

- A. The Contractor shall exercise special care to direct floodlights to shine downward. These floodlights shall also be shielded to avoid a nuisance to the surrounding areas. No lighting shall include a residence or native area in its direct beam. The Contractor shall correct lighting nuisance whenever it occurs.

1.10 MITIGATION MONITORING

- A. The SFCWA is required under the California Environmental Quality Act (CEQA) to provide mitigation monitoring in accordance with the CEQA Addendum Tule Red Restoration Project, State Clearinghouse

number 2003112039, and to comply with all other permit(s) issued for this project, see references issued in Volume 3. The Contractor shall comply with the mitigation monitoring plan as specified herein and as directed by the Engineer.

- B. The SFCWA mitigation monitors will monitor construction activities to ensure that all conditions are implemented; however, the Contractor is responsible for their implementation. Monitors shall be allowed access to observe all construction.
- C. The Contractor shall submit required documentation (e.g., equipment maintenance logs, seed labels) demonstrating compliance with applicable mitigation measures.

1.11 NATIVE AREAS

- A. The Contractor is cautioned that wildlife may traverse the work limits. The Contractor shall conduct its operations to facilitate the well-being of all wildlife affected by the project.
- B. The Contractor shall not feed or harass wildlife. The Contractor shall keep the work area free of trash and food waste. All food waste and associated trash shall be removed from the work area daily.

1.12 NOISE CONTROL

- A. The Contractor shall comply with all requirements of governmental agencies having jurisdiction.
- B. The Contractor shall perform all work without undue noise and shall make every effort to abate or prevent noise nuisances.
- C. Construction vehicle equipment shall be kept in proper working order for the duration of the construction activities.
- D. The Contractor's construction vehicles and equipment shall have mufflers. The Contractor shall equip all construction equipment, fixed and mobile, with properly operating and maintained noise mufflers and intake silencers, consistent with the manufacturers' standards.
- E. All site preparation, grading, excavation and construction activities shall be limited to the hours specified in Section 01010 and shall be in accordance with local jurisdictions' noise ordinances.

1.13 SURFACE AND STORM WATER CONTROL

- A. Surface and storm water control shall be in accordance with Section 01070.

1.14 TRAFFIC (NOT USED)

1.15 WELL-BEING OF DOMESTIC ANIMALS

- A. The Contractor is cautioned that domestic animals (cattle, horses, and others) may traverse the work limits or are kept on surrounding properties. The Contractor shall conduct its operations to avoid unnecessary disturbances and facilitate the well-being of all animals affected by the project. The Contractor shall consult with the Engineer and affected animal owners, and shall cooperate in using construction methods and establishing operating procedures to avoid unnecessary disturbances to animals.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01070
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

PART 1 GENERAL

1.01 REFERENCES

A. General

1. The publications listed below form a part of this specification to the extent referenced.
2. Where a date is given for reference standards, the edition of that date shall be used. Where no date is given for reference standards, the latest edition available on the date of Notice Inviting Bids shall be used.

B. California State Water Resources Control Board (SWRCB)

1. Storm Water Program

C. California Stormwater Quality Association (CASQA)

1. Construction BMP Online Handbook

1.02 SUBMITTALS

A. Statement indicating the Contractor's intent to comply with the terms of the General Permit for storm water discharges associated with construction activity until the Contractor-prepared SWPPP is reviewed and accepted by SFCWA.

B. All data as required by terms and conditions of the permit and SWPPP.

1.03 RELATED ACTIVITIES BY SFCWA

1.04 SFCWA has provided the preparation of the SWPPP and will file the SWPPP together with the Notice of Intent (NOI) and obtain a Waste Discharge Identification number (WDID) from the SWRCB.

1.05 PERMIT REGISTRATION DOCUMENTS (PRDs)

A. The approved SWPPP information will be posted electronically by the SFCWA on the State Water Board's Stormwater Multi-Application and Report Tracking System (SMARTS) website. Information submitted by the SFCWA may be viewed on SWRCB website.

1.06 STORM WATER POLLUTION PREVENTION PLAN PREPARATION AND IMPLEMENTATION

A. The Contractor shall not mobilize or perform any work on the project site until the SFCWA has obtained a WDID from the SWRCB.

B. Storm water management and erosion/sediment controls shall be installed in accordance with the approved SWPPP and the requirements of the General Permit. Controls and procedures shall conform to the BMP's listed in the SWPPP.

1. The Bid Items included in Schedule A and Schedule B will meet the sediment and erosion control measures required to comply with the Storm Water Pollution Prevention Plan (SWPPP) for either a Risk 1 or Risk 2 site, as determined by the SWPPP Plan. The Contractor will NOT be responsible for tasks associated with the preparation of the SWPPP, the inspections required by a Qualified SWPPP Practitioner (QSP), or any other water sampling if applicable. The Contractor shall be responsible for implementing standard Best Management Practices (BMPs) such as good housekeeping practices and those that are already included in the bid. According to Document 0010 (Supplementary Instructions to Bidders), "within 14 calendar days after receipt of the Notice of Award, the Contractor's designated representative shall attend the SWPPP training provided by SFCWA." This designated representative will be responsible for daily inspections and the maintenance of the BMPs (if needed) and reporting to the QSP or Engineer if corrective measures are needed.

C. Maintenance and Inspections

1. The Contractor will provide a designated individual to be trained and qualified in the SWPPP inspection process. The designated individual will perform routine inspections, as determined by California SWPPP guidelines and the site-specific QSP. The form attached at the end of this section will be a signed acknowledgement of SWPPP inspection qualifications, as determined by the QSP.
2. The SFCWA shall make visual inspections of all erosion control and sediment transport devices as necessary to ensure proper operation not less than once per week, and promptly before and after every rainstorm and at least every 24 hours during an extended rainfall event.
 - a. If such inspection reveals that additional measures are needed to prevent erosion and sediment transport, the Contractor shall promptly maintain, modify, or install additional devices as needed.
 - b. The SFCWA shall use the forms in the SWPPP for all inspections, and all completed forms shall be included in the SWPPP.
3. The Contractor shall perform routine maintenance, which shall include maintenance and repair of BMPs, debris removal, silt/sediment removal, clearing of vegetation around flow control devices to prevent clogging, and maintenance of healthy vegetative cover.

D. Removal and Formal Clean-up

1. Once the site has been successfully stabilized against erosion and sediment transport, and post construction BMPs have been established, the Contractor shall remove temporary sediment control devices and all accumulated silt and debris. The Contractor shall dispose of silt and waste materials in a proper manner. The Contractor shall restore all areas disturbed during this process and stabilize against erosion with surfacing materials.

E. Post-Construction BMPs Installation

1. Post-Construction BMPs, as described in the approved SWPPP, shall be installed before the end of the project as specified in Section 02952-1600.

F. Failure to Adopt and/or Implement an Acceptable SWPPP

1. If the Contractor fails to adopt and implement an acceptable SWPPP, the SFCWA reserves the right to stop the Contractor's work without recompense, and withhold payments owed to the Contractor until such time as an acceptable SWPPP is adopted and implemented, and/or design and implement an acceptable SWPPP, using the SFCWA or other Contractor forces with costs for same deducted from monies owed the Contractor. In addition, the SFCWA reserves the right to suspend work for failure of the Contractor to adopt and implement an acceptable SWPPP in accordance with Article 13 of the General Conditions
2. Fines levied by authorities having jurisdiction for failure of the Contractor to adopt and implement an acceptable SWPPP shall be deducted from monies owed the Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

Appendix G

Training Documentation Form

Project Name: Tule Red

Project Number:

Storm Water Management Topic: (check as appropriate)

- | | |
|---|---|
| <input type="checkbox"/> Erosion Control | <input type="checkbox"/> Sediment Control |
| <input type="checkbox"/> Wind Erosion Control | <input type="checkbox"/> Tracking Control |
| <input type="checkbox"/> Non-storm Water Management | <input type="checkbox"/> Waste Management and Materials Pollution Control |
| <input type="checkbox"/> Dewatering | <input type="checkbox"/> Other (specify) |

Specific Training Objective: _____

Location: _____ Date: _____

Instructor: _____ Telephone: _____

Training Length (hours): _____

Attendee Roster (attach additional forms if necessary)

Name	Company	Phone

Comments:

END OF SECTION

SECTION 01090
REFERENCE STANDARDS AND DRAWINGS

PART 1 GENERAL

1.01 REFERENCE STANDARDS

- A. Whenever references are made in these specifications to published standards or specifications, the latest standards or specifications of the respective issuing agencies that have been published as of the date that the work is advertised for bids shall apply, except as otherwise specified herein and except to the extent that the standards or specifications may be in conflict with applicable laws, regulations, ordinances, or governing codes. No requirement set forth in these specifications or shown on the drawings shall be waived because of any provision thereof, or omission from, the standards or specifications. All work shall comply with applicable laws and regulations.
- B. The Contractor shall obtain copies of references directly from the publications' sources.
- C. The following are acronyms and abbreviations of the names of agencies or organizations promulgating specifications, standards, regulations, and codes that may appear on the drawings or in the specifications.

AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGCA	The Associated General Contractors of America
AGMA	American Gear Manufacturers Association
AI	Asphalt Institute
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANLA	American Hort (formerly: American Nursery and Landscape Association)
ANSI	American National Standards Institute
AOAC	AOAC International (formerly: Association of Official Agricultural Chemists)
APA	APA – The Engineered Wood Association (formerly: American Plywood Association)
API	American Petroleum Institute
APWA	American Public Works Association
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASME	The American Society of Mechanical Engineers
ASNT	The American Society for Nondestructive Testing, Inc.
ASTM	ASTM International (formerly: American Society for Testing and Materials)
AWS	American Welding Society
AWWA	American Water Works Association
BAAQMD	Bay Area Air Quality Management District
Cal/OSHA	Division of Occupational Safety and Health - California Department of Industrial Relations
Caltrans	California Department of Transportation
CARB	Air Resources Board - California Environmental Protection Agency,
CBC	California Building Code
CCR	California Code of Regulations
CDA	Copper Development Association, Inc.
CDHS	(see CDPH)
CDPH	California Department of Public Health (formerly: California Department of Health Services)
CFR	Code of Federal Regulations
CI	The Chlorine Institute
CISPI	Cast Iron Soil Pipe Institute
CMAA	Crane Manufacturers Association of America, Inc. - Material Handling Industry
CMC	California Mechanical Code
CPC	California Plumbing Code
CPSC	Consumer Product Safety Commission
CRA	California Redwood Association
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Service - U.S. Department of Commerce's International Trade Administration
DOSH	Division of Occupational Safety and Health (see Cal/OSHA)

Reference Standards and Drawings

DSOD	Division of Safety of Dams - California Department of Water Resources
DWR	California Department of Water Resources
EPA	United States Environmental Protection Agency
FS	Federal Specification
ICBO	International Conference of Building Officials
ICC	International Code Council
IEEE	Institute of Electrical and Electronic Engineers, Inc.
MDAQMD	Mojave Desert Air Quality Management District
MSS	Manufacturers' Standardization Society of the Valve and Fittings Industry
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International (formerly: National Association of Corrosion Engineers)
NEC	National Electrical Code (see NFPA)
NECA	National Electrical Contractors Association
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology – U.S. Department of Commerce
NRCA	National Roofing Contractors Association
NSF	NSF International (formerly: National Sanitation Foundation)
PCI	Precast/Prestressed Concrete Institute
PS	Product Standard (see NIST)
PWSI	Public Works Standards, Inc.
RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District
SDI	Steel Deck Institute
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association, Inc.
SSPC	Society for Protective Coatings
SSPWC	Standard Specifications for Public Works Construction (see PWSI)
UL	Underwriters Laboratories (UL LLC)
USACE	United States Army Corps of Engineers
WCLIB	West Coast Lumber Inspection Bureau
WRI	Wire Reinforcement Institute, Inc.
WWPA	Western Wood Products Association

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01200 PROJECT MEETINGS

PART 1 GENERAL

1.01 PRECONSTRUCTION MEETING

- A. A meeting will be held at a time and place selected by the Engineer to discuss the work, construction schedule, mobilization for the start of work, and details of administrative procedures to be used during the progress of the work.
- B. Attending the meeting will be the Engineer and key members of the jobsite staff, representatives of SFCWA if applicable, the Contractor's authorized representative and key members of the Contractor's staff, and key subcontractors as selected and requested by the Contractor.
- C. At the meeting, the Engineer will discuss details of procedures for access to the site, operational necessities at the facilities, procedures for payment estimates, safety, schedule of project meetings, and other subjects as determined by the Engineer or requested by the Contractor. This meeting will take place prior to the Contractor's mobilization to the site.
- D. The Engineer will record minutes of meetings and distribute copies of minutes within 7 days of the meeting to participants and other interested parties.

1.02 PROJECT MEETINGS

- A. To enable orderly review of progress during construction and to provide for systematic discussion of problems, the Engineer will conduct project meetings throughout the construction period.
 - 1. Project meetings will be held every week at the jobsite in accordance with a mutually acceptable schedule.
 - 2. More frequent meetings may be called after due notice to the Contractor.
- B. The purpose of the project meetings is to review the schedule and analyze and resolve problems that might arise relative to execution of the work, to discuss potential impact the Contractor's operations may have on neighboring construction and operations, and to review the Contractor's look-ahead schedule. To the maximum extent practicable, the Contractor shall advise the Engineer at least 24 hours in advance of the project meeting regarding items the Contractor wishes to have added to the agenda.
- C. Persons designated by the Contractor to attend and participate in project meetings shall be familiar with the schedule and current construction problems and activities and shall have the authority to commit the Contractor to the resolution of problems as agreed upon in the project meetings.
- D. Subcontractors, materials suppliers, and others may be invited to attend project meetings when their aspects of the work are involved, but the Contractor shall remain wholly responsible for its obligations under the Contract.
- E. A written notice and the proposed agenda shall be distributed to each anticipated participant of each meeting at least 1 day before the meetings.

1.03 OTHER MEETINGS

- A. From time to time as dictated by the construction progress and concerns, the Engineer may call separate meetings for discussion of specific topics. The Contractor's authorized representative is required to attend these meetings as requested by the Engineer.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01300 SUBMITTALS

PART 1 GENERAL

1.01 SUBMITTAL LOGS

- A. Five hard copies and an electronic copy of the initial submittal log shall be submitted to the Engineer's field office within 30 working days after receipt of the Notice to Proceed.
- B. The Contractor shall prepare and maintain an accurate submittal log for the duration of the project. The log shall contain a listing of submittals and shall include the following information for each listed item:
 - 1. Specification section reference
 - 2. Projected submission date
 - 3. Actual submission date
 - 4. Projected need date for approval of the submittal
 - 5. Actual return date from the Engineer
 - 6. Notation of the Engineer's response
 - 7. Notation if resubmittal or record copy is required
- C. Four copies of the updated submittal log shall be submitted with each monthly schedule update.
- D. The Engineer's approval of submittals shall not relieve the Contractor of the entire responsibility for the correctness of the work covered by the submittal. The Contractor shall assume all responsibility for misfits and deficient work due to errors in the submittals.

1.02 DEFINITIONS

- A. Or-Equal—Whenever material or equipment is indicated in these specifications by stating names of proprietary items or of particular suppliers, the naming of the item is intended to establish the type, function, and quality required. The Contractor may select any of these named items for use on the project. When the name is followed by the words “or-equal,” it indicates that a substitution may be submitted for approval. An “or-equal” item serves the same function; has the same dimensions, appearance, quality, terms of warranty, durability, reliability, cost in service and maintenance; and complies with the same codes and standards as the named item. Further, its substitution will have no effect on project details, cost, and program.
- B. Substitution—Use of an “or equal” item of material or equipment that meets contract requirements.
- C. Change or Deviation—Use of an alternative item of material or equipment that does not meet the contract requirements. In this section, the same procedure shall be followed to obtain approval as for substitutions. On the letter of transmittal, substitutions, changes, and deviations are noted as variations.

1.03 REQUIREMENTS FOR SUBMITTALS AND SUBMITTAL PACKAGES

- A. Submittals will be required for all fabricated articles.
- B. Submittals required by the specifications sections shall be in accordance with this section unless otherwise specified. Submittals not in accordance with this section and with the section requiring the submittal will be returned to the Contractor as unsatisfactory.
- C. Prior to transmission to the Engineer, the Contractor shall carefully review each submittal to confirm that it is complete and to verify whether or not the proposed items or work conform to contract requirements. Each submittal shall be dated, signed, and certified by the Contractor as being correct and in conformance with the drawings and the specifications. The Engineer will not review any items which have not been certified by the Contractor. All non-certified submittals will be returned to the Contractor without action taken by the Engineer, and any delays caused thereby shall be the responsibility of the Contractor.
- D. Items that are not in accordance with the contract requirements shall be conspicuously noted as such. The Contractor shall identify each proposed deviation on the corresponding letter of transmittal and include a written explanation of the necessity for each deviation with the letter of transmittal. Deviations that are not conspicuously marked on both

Submittals

the letter of transmittal and the corresponding drawing or data will be deemed to have been disapproved by the Engineer or not reviewed by the Engineer.

E. Number of Copies Required

1. Each submittal (and resubmittal) shall have hard copies as specified and an electronic version of the hard copy material in PDF format that is emailed to the designated SFCWA representative. Both shall have a label with the Project's title, specification number, contract number and submittal number. The documents in electronic copy shall be able to print at full-size.
2. Each Submittal: Unless otherwise specified, The Contractor shall furnish 5 hard copies of each submittal and an electronic copy of each submittal. Each copy of the submittal shall have the letter of transmittal attached to it.

F. Delivery Address

1. Unless otherwise specified, hard copies of submittals shall be marked for the attention of Construction Contracts and shall be delivered to the State & Federal Water Contractors Agency (SFCWA), 1121 L St., Suite # 806 Sacramento, California 95814.
2. Delivery of hard copies to more than one location may be necessary for submittals, as directed by the Engineer.

G. Transmittal Format

1. A separate letter of transmittal, in a form acceptable to the Engineer, shall be used to transmit submittals for each specific item or class of material or equipment. An example of an acceptable letter of transmittal is included at the end of this section.
2. Submittal of multiple items using a single letter of transmittal will be permitted only when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates review of the group or package as a whole. If multiple submittal items are transmitted under 1 transmittal letter, then the Contractor shall tab each individual submittal item in the package and provide a table of contents at the beginning of the submittal package.
3. The letter of transmittal for each submittal shall show the transmittal number, date of transmittal, project title, construction contract number, specifications section or drawing number to which the submittal pertains, brief description of the material or equipment submitted, and the company name or the originator of the submittal. Material descriptions shall include the following: type, size, trade name, manufacturer's/supplier's name, and other appropriate summarizing information. Submittal letters for shop drawing descriptions shall include the complete list of drawings/sheet numbers that are included in the submittal package. Each letter of transmittal shall be clearly marked to indicate the cases when the material is being submitted as a variation.
4. The transmittal number shall be indicated on every page of each copy of each submittal, and shall correspond to the number given in the letter of transmittal. Only the first sheet of a bound set of originally published or printed brochures or catalogs shall be numbered.
5. Submittals shall be consecutively numbered beginning with the number 1.
6. Multiple-page submittals (more than 25 pages) shall be collated into sets, and each set shall be put in a folder or bound before transmittal to the Engineer.
7. When material or equipment is resubmitted for any reason, a new letter of transmittal shall have the original submittal number followed by a decimal and a number corresponding to the number of resubmittal. An example is 50.2, where 50 is the submittal number and 2 is the number of times submittal 50 has been resubmitted. The letter of transmittal shall indicate that it is a resubmittal.

1.04 SUBSTITUTIONS

A. Submittals of substitutions, changes, and deviations shall be in accordance with this section and may be permitted subject to the following requirements:

1. The proposed substitution, change, or deviation shall be conspicuously marked on the drawings or data.
2. The corresponding line item on the letter of transmittal shall be conspicuously marked as a variation.
3. Proof shall be provided of the comparative quality and suitability of alternative equipment or materials for proposed substitutions. Description, information, performance data, and other information as may be

required by the Engineer shall be submitted showing the equality of the materials or equipment offered to those specified.

4. A written explanation of the necessity for the proposed change or deviation shall be indicated in the Letter of Transmittal.
5. The Engineer will be the sole judge as to the comparative quality and suitability of alternative equipment or materials, and his decision will be final.

B. Prequalified Products: If the specifications state that a specified product has been prequalified by SFCWA, the following applies to that product.

1. A change in the formulation or quality control tolerances of an approved product will necessitate its requalification.
2. Only those products that have been approved at the time of opening bids will be acceptable for use in the work; except, products may be approved after the bid opening date when there is sufficient time within the contract period to permit testing and qualification. Criteria pertaining to the qualification of products may be obtained from the Engineer.
3. No extension of time will be granted for the purpose of testing and qualifying proposed products.

1.05 ACTIONS BY THE ENGINEER AND SUBSEQUENT CONTRACTOR ACTIONS AND RESPONSIBILITIES

A. The Engineer will reject incomplete submittals as not complying with the contract requirements.

B. After receipt of a complete submittal and within the time limits described below, the Engineer will transmit the submittal back to the Contractor marked with the review status.

1. Product data, drawings, and other items submitted to the Engineer for approval will be returned marked:
 - a. Approved
 - b. Approved as Revised
 - c. Returned for Revision
 - d. Partially Approved - Resubmittal Required
2. Reinforcing steel drawings and bending diagrams will be reviewed by the Engineer for rebar size, rebar spacing, and lap-splice location. Upon completion of the review, the Engineer will return the drawings marked:
 - a. Reviewed - No corrections noted
 - b. Reviewed - Corrections noted - No resubmittal required
 - c. Reviewed - Resubmittal required
3. Certifications, structural calculations, shoring plans, manuals, test reports, and other plans and procedures submitted to the Engineer for review will be returned marked:
 - a. Reviewed - No corrections noted
 - b. Reviewed - Corrections noted - No resubmittal required
 - c. Reviewed - Resubmittal required

C. For items marked "Approved as Revised", the revisions will be marked on the appropriate product data sheets or drawings or will be described in the comment sheet or letter responding to the submittal. These product data sheets or drawings will be considered approved.

D. Drawings marked Approved as Revised shall be revised by the Contractor, and a set of revised prints shall have a label with the Project's specification number, contract number, submittal number and the phrase "Final Revision".

E. For items marked "Partially Approved - Resubmittal Required,"

1. The portion of the submittal that is "Approved" or "Approved as Revised" will be described in the comment sheet or letter responding to the submittal. Any revisions in this portion of the submittal will be marked on the appropriate product data sheets or drawings or will be described in the comment sheet or letter responding to the submittal. These product data sheets or drawings will be considered approved.

Submittals

2. For the portion of the submittal marked "Resubmittal Required", the drawings or other data are found to be unsatisfactory. The Contractor shall at once revise the drawings or data and resubmit them to the Engineer.
 3. Once the portion of the Partially Approved - Resubmittal Required submittal is resubmitted and approved, all drawings related to the submittal shall be revised by the Contractor, and a set of revised prints shall have a label with the project's specification number, contract number, submittal number and the phrase "Final Revision".
- F. In the event the drawings or other data are found unsatisfactory, 2 copies of the submittal will be transmitted to the Contractor with a statement of the deficiencies. The Contractor shall at once revise the drawings or data and resubmit them to the Engineer.
- G. After approval of submittals, the Contractor shall not deviate from the design, details, or dimensions shown on the approved submittal without the written consent of the Engineer. Fabrication, installation, or other production work performed in advance of the receipt of approval of submittals shall be entirely at the Contractor's risk.
- H. SFCWA reserves the right to withhold final contract payment until all "Record Copies" of submittals that were marked "Approved as Revised" and "Partially Approved - Resubmittal Required" have been received by SFCWA.

1.06 REVIEW SCHEDULE

- A. The sequencing and scheduling of submittals shall be in accordance with the priority established in the approved construction schedule. Submittals that affect the critical path and near-critical path work items and large equipment submittals shall be scheduled to provide the greatest amount of float possible.
1. Submittals shall be made far enough in advance of scheduled dates of installation to provide the time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.
 2. When delay is caused by the need for resubmission of submittals, the Contractor will not be entitled to damages or extension of time on account of the delay.
- B. Submittal Review and Return Duration Requirements
1. Fifteen working days shall be scheduled for the Engineer's review of each submittal. Fifteen working days shall also be scheduled for review of each resubmittal.
 2. The following are exceptions to the 15-working-day response period:
 - a. Certifications and other items submitted for informational purposes: No response unless the submittal is deficient or a response is otherwise specified
 - b. Technical review of manuals: 45 working days
 - c. Point-to-point drawings: 60 working days

1.07 RECORD COPIES

- A. Within 30 working days after final approval of shop, assembly, or layout drawings (including submittals with a disposition of "Approved" or "Approved as Revised"), one full-size hard copy and a CD containing an electronic version of the hard copy material in PDF format shall be forwarded to the Engineer. This hard copy and electronic version of the hard copy shall collectively constitute the Record Copies and shall be designated as "Final Revisions".
1. In addition to the "Final Revision" designation, both shall have a label with the Project's title, specification number, contract number, and submittal number.
 2. Record copies of approved drawings shall be clean, legible without the use of magnification, and capable of producing copies that are comparable in quality to the original. The documents in electronic copy shall be able to print at full-size. Drawings which do not meet these criteria will not be accepted by SFCWA. Any record drawing not accepted by SFCWA must be revised and resubmitted until it is acceptable to SFCWA.

1.08 SUBMITTAL FORMAT REQUIREMENTS

- A. Product Data: Product data shall be annotated or highlighted to show the particular items and options that are proposed for use in the work.
- B. Drawings

1. Drawings shall be submitted in complete sets together with required data so that sufficient information will be available for a thorough evaluation.
2. Each Contractor's drawing shall include as minimum identification for checking:
 - a. Contractor's name
 - b. Project name
 - c. Applicable subcontractor's name, if any
 - d. Preparer's name
 - e. Submittal number
 - f. Drawing number and date
 - g. The contract and specification number
 - h. Reference contract drawing number
 - i. Drawing title and appropriate subtitles
3. Drawings shall have sufficient blank spaces for making corrections and for the Engineer's review stamp. The minimum blank space for stamping shall be a 3-inch square located at the lower right corner above the title block. Drawings submitted without sufficient information or sufficient spaces for making corrections and stamping will be returned without approval.
4. Printed material such as catalog sheets, brochures, or other printed sheets may be submitted in place of drawings, provided that the printed material fully describes the manufactured articles to be installed. If in the opinion of the Engineer the printed material does not adequately describe the item, the printed material will be rejected and a shop drawing shall be submitted.
5. Substitution of tabular computer printouts for layout drawings will not be acceptable; however, the Contractor may submit computer printouts along with the mandatory drawings. CAD drawings are acceptable for submittal.

C. Samples

1. Samples of fabricated items shall conform to the specified requirements for tolerance and finish for the work they represent.
2. Samples of fabricated items shall be full-size, physically identical prototypes of the fabricated item proposed for incorporation in the work.
3. Samples of materials shall be physically identical to the size, type, color, pattern, and texture of the materials proposed for incorporation in the work.
4. When selection from a range of choices is specified, samples for selection of color, pattern, texture, or other characteristic shall include a full set of the standard range of choices for the material or product.

D. Construction Schedule

1. As soon as possible after receiving the Notice of Award and before any work starts, submit five (5) copies of a Construction Schedule, in accordance with Section 01312, showing estimated starting and completion dates for each part of the work. The first progress payment will not be issued until the progress schedule is submitted and approved.

E. Schedule of Values

1. Submit a schedule of Values in accordance with Section 01320 for the various portions of the work. The schedule shall be based on the Contract Bid Schedule or Bid Form and shall include all bid items. The Schedule of Values in conjunction with the Construction Schedule will be the basis of the monthly progress payments.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

Submittals

LETTER OF TRANSMITTAL

FOR SUBMITTAL NO.: _____
 CONTRACTOR: _____
 ADDRESS: _____
 PHONE: _____ FAX: _____

TO: Construction Contracts DATE: _____
 SFCWA
 CONTRACT NO: _____ SPEC. NO: _____
 PROJECT: _____

WE ARE SUBMITTING THE ENCLOSED:

- SHOP DRAWINGS
 EQUIPMENT DATA
 MATERIAL DATA
 SAMPLES
 CERTIFICATES OF COMPLIANCE
 OTHER

FOR YOUR:
 APPROVAL INFORMATION

PLEASE RETURN _____ COPIES FOR OUR RECORDS

ITEM NO.	DESCRIPTION OF ITEM	NO. OF COPIES	CONTRACT REFERENCE SPEC. SECTION OR DRAWING SHEET NO.	VARIATION

REMARKS: All deviations from the construction contract shall be explained in detail.

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

 NAME/SIGNATURE OF CONTRACTOR

DISPOSITION:

- APPROVED REVIEWED—NO CORRECTIONS NOTED
 APPROVED AS REVISED REVIEWED—CORRECTIONS NOTED—NO RESUBMITTAL REQUIRED
 RETURNED FOR REVISION REVIEWED—RESUBMITTAL REQUIRED
 PARTIALLY APPROVED - RESUBMITTAL REQUIRED

<input type="checkbox"/> SEE ATTACHED SHEET FOR COMMENTS	_____ SIGNATURE AND TITLE OF APPROVING AUTHORITY	_____ DATE
---	---	---------------

SECTION 01312 CONSTRUCTION SCHEDULES

PART 1 GENERAL

1.01 SUBMITTALS

- A. Project schedule submittals shall consist of **5** paper copies, 8.5 by 11 inches or 11 by 17 inches and an electronic copy in Adobe Acrobat .pdf and Microsoft Project format.
- B. Baseline Project Schedule
 - 1. The Contractor shall submit the baseline project schedule within **10** working days after receipt of the Notice to Proceed.
 - 2. The Engineer will meet with the Contractor to review and discuss the proposed schedule within **10** working days after receipt of the submittal. At this meeting, the Engineer will inform the Contractor if the schedule is acceptable or if it must be revised and resubmitted.
 - 3. In the event that correction of the baseline project schedule is required, the Contractor shall resubmit 4 copies of the schedule with the corrections within **2** working days of the meeting. The Engineer will meet with the Contractor to review and discuss the schedule within **2** working days after receipt of the re-submittal. At this meeting, the Engineer will inform the Contractor if the schedule is acceptable or if it must be revised and resubmitted.
- C. Updates of the Project Schedule
 - 1. The updated project schedule shall be submitted by the 20th of each month.
- D. Narrative Progress Report: The Contractor shall submit 4 copies of the monthly narrative progress report by the 20th of each month.
- E. Failure to submit each package by the required date may result in a reduction in progress payment by SFWCA for the corresponding month.
- F. Look-Ahead Schedule: Look Ahead Schedule shall be submitted weekly. When a project meeting is scheduled, the Look Ahead Schedule shall be submitted at least 24 hours prior to the meeting. The number of copies submitted and the layout and format of the look-ahead schedule shall be acceptable to the Engineer.
- G. Cash-Flow Forecast
 - 1. The Contractor shall submit the initial cash-flow forecast within 10 working days after receipt of the Notice to Proceed.
 - 2. The Contractor shall submit a revised cash-flow forecast when the monthly pay estimate varies from the current cash-flow projection by more than 50 percent, or the cumulative payment to date varies from the forecast by more than 20 percent.
 - 3. The Contractor shall provide 4 copies of all cash-flow forecast submittals on 8.5 by 11-inch paper and an electronic copy in Microsoft Excel format.

1.02 PROJECT SCHEDULE

- A. The Contractor shall provide a computer-generated Gantt chart construction schedule using Microsoft Project.
- B. The schedule shall show in detail the Contractor's plan of operations for construction of the project. The degree of detail shall be to the satisfaction of the Engineer and shall include:
 - 1. The means, methods, and sequences for performing work
 - 2. Mobilization of plant and equipment
 - 3. Submission and approval of critical submittals
 - 4. Fabrication and delivery of critical equipment and materials
 - 5. Approvals and permits required by regulatory agencies or other third parties
 - 6. Access to and availability of work areas

Construction Schedules

7. Identification of interfaces and dependencies with preceding, concurrent, and follow-on contractors
8. Specified project phasing, milestones, and completion dates
9. Testing
10. The activities of the Engineer that may affect progress or affect required dates for completion of all or part of the work, including delivery of SFWCA-furnished equipment

C. Revisions to the Baseline Project Schedule

1. The original approved baseline project schedule shall not be updated, revised, or changed. The baseline schedule shall be revised when planned schedule logic or planned activity data are changed by authorized changes, i.e. approved change orders, or activities are modified, added or deleted, or when substantial re-sequencing in the Contractor's plan occurs. A record of each stage of the baseline schedule shall be retained in the project document file.
2. Activity IDs shall not be changed when the schedule is revised. Activity IDs from deleted activities shall not be reused.
3. The revised project schedule shall be subject to the Engineer's review and acceptance as specified herein. The first accepted revised schedule shall be designated Revision 1, and subsequent revisions shall be numbered sequentially.
4. The Contractor shall immediately advise the Engineer of proposed or required changes in the schedule logic or delays to the progress of the work.
5. The Contractor shall furnish a revised schedule within 10 days of the adoption of a change. A narrative description of the change, the necessity for the change, the impact of the change to the specified project milestones, and the cost to SFWCA if the revised schedule is accepted, shall be enclosed.
6. The Contractor shall furnish a revised schedule within 10 days of the award by the Engineer of an adjustment in the time of completion of the work.
7. The Contractor shall provide a comparison report with each revised schedule, providing a clear description of items revised, added or deleted.

D. Monthly Project Schedule Updates

1. The Contractor shall update the current project schedule monthly to show:
 - a. Actual summary task and activity-start dates
 - b. Actual summary task and activity-completion dates
 - c. Actual total progress achieved to date on each summary task and activity in percent
 - d. Non-working days granted by the Engineer
 - e. Schedule updates shall not include any revisions, including changes to the schedule logic and dependencies nor the planned activity durations and quantities, early-start and late finish. The update shall not add or delete activities.
 - f. The Contractor shall provide a comparison report with each update using Primavera Claim Digger software latest version, compatible with Windows Vista.

- E. If the project falls behind schedule by more than 20 working days, the report shall contain proposed alternatives for schedule recovery.

1.03 CASH-FLOW FORECAST

- A. The Contractor shall use any reasonable system to develop a cash-flow analysis that depicts the estimated cash expenditures in the aggregate, by month, over the life of the project. The Contractor shall provide data in both tabular and graphic display form.

1.04 EXTRA WORK, DELAYS, AND TIME EXTENSIONS

- A. When changes or delays to the critical path are experienced and the Contractor requests an extension of time, a written Time Impact Analysis shall be submitted, illustrating the influence of each asserted change or delay on the current contract schedule completion date. Each time impact analysis shall include a fragnet that demonstrates how the change or delay is proposed to be incorporated into the project schedule.

- B. Each analysis shall demonstrate:
1. The estimated time impact, based on the events of delay
 2. The date the direction was given to the Contractor to perform the changed work
 3. The status of construction at that point in time
 4. The computation of event time of all critical activities affected by the change or delay. The event times and activity durations used in the analysis shall be those included in the latest revision and update of the project schedule at that point in time or as adjusted for the events of delay.
- C. The Engineer will approve time extensions, as provided in the General Conditions, to the extent that equitable time adjustments for the affected activities increase the overall duration of the Contract. Each time impact analysis shall be submitted in triplicate and within the timeframe specified in Articles 10, 13, and 18 of the General Conditions.
- D. The Engineer will accept or reject the Contractor's time impact analysis within 20 working days after its receipt unless subsequent meetings and negotiations are necessary. Upon acceptance by the Engineer, these time extensions shall be incorporated into the project schedule.
- E. Upon mutual agreement by both parties, fragnets illustrating the influence of extra-work orders and delays shall be incorporated into the project schedule during the first revision after agreement is reached.
- F. In the event that the Contractor does not agree with the decision of the Engineer regarding the impact of a change or delay, the Contractor may protest in accordance with Article 18 of the General Conditions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01400 INSPECTION OF THE WORK

PART 1 GENERAL

1.01 SUBMITTALS

- A. When requested by the Engineer, the Contractor shall furnish the Engineer such additional information as may reasonably be required regarding the character of the materials and the progress of their procurement, including copies of invoices, bills of lading, and shipping lists on all articles and materials for use on the work.
- B. Test Reports and Certifications
 - 1. Where certifications or mill-test reports are required, the Contractor shall submit 4 complete, certified copies.
 - 2. Certifications shall show chemical composition, mechanical properties, or other characteristics of the materials to be used in the work.
 - 3. Material specified by a referenced standard shall be certifiable by the mill or manufacturer under that standard.
 - 4. The testing, analysis, and certification shall be the responsibility of the Contractor.

1.02 RESPONSIBILITIES

- A. The Contractor shall be responsible for full compliance with every requirement of the contract documents and shall ensure that the work is in full accordance with these requirements. At all times, the Contractor's work will be subject to rigid inspection by the Engineer. Whether discovered by the Contractor or the Engineer, nonconforming work shall be corrected or replaced by the Contractor.
- B. For convenience, materials or equipment to be incorporated in the work may be designated in the specifications by a trade name or the name of a manufacturer and the manufacturer's catalog item number information. Materials, articles, or equipment, even if supplied by a manufacturer designated in the specifications, shall be accepted only if the items meet all other specification requirements.
- C. The Contractor shall furnish all tools, equipment, materials, supplies, and manufactured articles necessary or required for the performance and completion of the work included in the Contract, except for materials and equipment specified to be furnished by SFCWA. The materials, articles, and equipment provided for permanent installation in the work shall be new and shall be in accordance with these specifications.
- D. The Contractor shall perform quality control on suppliers, manufacturers, products, services, site conditions, and workmanship to ensure that work conforms to the contract documents. The Contractor shall be prepared to document its quality control activities.
- E. The Contractor shall require and ensure conformance with specified standards as a minimum quality for the work. When more stringent tolerances, codes, or specified requirements are required by a particular manufacturer or a particular item of work, the higher standards or more precise workmanship shall be provided.
- F. The Engineer's inspections and tests are for the sole benefit of SFCWA and shall not:
 - 1. Relieve the Contractor of responsibility for providing adequate quality control measures
 - 2. Relieve the Contractor of responsibility for damage to or loss of the material before acceptance
 - 3. Constitute or imply acceptance
 - 4. Affect the continuing rights of SFCWA after acceptance of the completed work
- G. The Contractor shall be responsible for adjustments, corrections, or repairs found necessary after the delivery or installation of materials and articles.
- H. Unidentified materials shall not be used in the work, including work at fabrication plants.

1.03 SEQUENCING AND SCHEDULING OF INSPECTIONS AND TESTS

- A. The Contractor shall fully advise the Engineer regarding progress of the work in its various parts.
- B. The Contractor shall furnish and prepare the required samples and test specimens ready for testing in time for the necessary tests and analysis.
- C. Where the specifications require work to be tested or approved, it shall be tested only in the presence of the Engineer.
- D. The Engineer shall be given timely notice of the Contractor's readiness for inspection and test. The length of advance notice shall be appropriate for the complexity of the inspection or test, the availability of the Engineer's staff, and the location of the inspection or test, but in no case shall less than 24 hours advance notice be given.

1.04 TESTING

- A. Materials and articles that are to be included in the works shall be subject to testing for conformance with the specifications and drawings.
- B. When not otherwise specified, sampling and testing shall be in accordance with the methods prescribed in the current standards of ASTM applicable to the class and nature of the articles or materials considered. However, the Engineer will have the right to use any generally accepted method of testing that will ensure that the quality of materials, articles, or work is in full accord with the specifications and drawings.
- C. The Engineer will have the right to select, test, and analyze, at the expense of SFCWA, additional test specimens of the materials to be used. Results of these tests and analyses will be considered with the results of other tests or analyses, whether performed by the Engineer or the Contractor, to determine compliance with the applicable specifications for the materials.

1.05 INSPECTION BY THE ENGINEER

- A. Materials and articles that are to be included in the works shall be subject to rigid inspection by the Engineer for conformance with the specifications and drawings. The Contractor shall plan for the inspections to be continuous, repetitive, and detailed.
- B. Orders for materials, articles, and equipment shall note that the articles, materials, and equipment are subject to inspection and acceptance by SFCWA, both during manufacture or fabrication and after delivery to the site.
- C. When practicable and convenient for the Engineer, inspection will be made during the manufacture of the articles and equipment.
- D. The location, alignment, grade, plumb, and other physical characteristics of formwork for concrete, items to be embedded in concrete, and permanent improvements shall be subject to rigid survey verification.
- E. Materials or articles shall not be incorporated in the work until they have been inspected by the Engineer.
- F. After testing, work shall be covered or backfilled only with the approval of the Engineer.

1.06 FACILITIES FOR INSPECTION AND TESTING

- A. The Contractor shall furnish the facilities, utilities, and assistance necessary for the safe and convenient performance of inspections and tests required by the specifications or by the Engineer.
- B. The Contractor shall provide adequate lighting, access, and ventilation for a safe working environment for inspections and tests.
- C. The Contractor shall cooperate with the Engineer's staff in the performance of their respective duties and shall provide qualified personnel to assist with the performance of tests and inspections by them.
- D. When the specifications require tests or inspections to be performed by the Contractor, the Contractor shall provide qualified personnel to perform them.

1.07 REJECTION OF WORK

- A. The Engineer will have the right, at all times and in all places, to reject articles or materials to be furnished for the project that fail to meet the requirements of these specifications. This shall be regardless of whether the defects in these articles or materials are detected at the point of manufacture or after completion of the work at the site.
- B. The Engineer will be the sole judge as to the acceptable quality of materials, articles, and work. However, where the Engineer, through an oversight or otherwise, accepts material, articles, or work that is defective or that is contrary to the specifications, the material, article, or work, no matter in what stage or condition of manufacture, delivery, or erection, may be rejected by the Engineer.
- C. Promptly after notification of rejection by the Engineer, the Contractor shall remove rejected portions or items of materials, articles, or work to a satisfactory distance from the vicinity of accepted items and shall replace them.

1.08 FINAL INSPECTIONS AND ACCEPTANCE

- A. Final inspections for acceptance of materials, articles, equipment, and work will be made at the completion of all contract work.
- B. A minimum of 10 working days prior to the estimated completion of the work, the Contractor shall notify the Engineer in writing of the pending completion of the entire work or an agreed portion thereof. The Contractor shall include with the notice a complete list of work items remaining to be completed.

- C. On or about the Contractor's estimated completion date, the Engineer will make a thorough inspection of the entire work. Defects or deficiencies noted during this inspection will be reported to the Contractor in writing.
- D. The Contractor shall notify the Engineer in writing when all items on the list are corrected. Shortly thereafter, the Engineer will make a thorough final inspection of the entire work.
- E. If the Engineer determines the work to be complete, it will be accepted. If defects or deficiencies are noted during this inspection, they will be reported in writing to the Contractor. When the Contractor notifies the Engineer of the correction of these items, another final inspection will be scheduled.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01500 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.01 SUBMITTALS

- A. Leases: If the Contractor elects to store materials or equipment at warehouses or yards on lands not owned by SFWCA, a copy of all leases shall be submitted.

1.02 CONTRACTOR'S WORK AND STORAGE YARD AREA

- A. The Contractor shall locate offices, employee parking, storehouses, and storage areas for materials and equipment in the work and storage area.
- B. The Contractor shall be responsible for the care of materials and equipment stored in the work and storage yard areas and warehouses, and for the proper maintenance of fencing and structures.
- C. If the Contractor elects to store materials or equipment at warehouses or lands not owned by SFWCA, the lease or leases for such premises shall provide that the lessor notify SFWCA immediately upon the Contractor's default in the payment of rent on one or more of the leases.
 - 1. SFWCA shall have the right to make payment of rent on behalf of the Contractor, shall be entitled to withhold from payments due the Contractor the amount paid, and shall, in addition, be entitled to withhold a sum sufficient to reimburse SFWCA for expenses incurred in making the rent payments.
 - 2. A copy of all leases for yards or storehouses shall be submitted to the Engineer at the time of execution of the Contract or when the lease is executed whichever occurs last.

1.03 SURFACE AND STORM WATER CONTROL

- A. The Contractor shall divert or otherwise control surface water and waters flowing from existing projects or structures from coming onto its work areas. The method of diversions or control shall be adequate to ensure the safety of stored materials and of personnel using these areas. Following completion of work under the Contract, ditches, dikes, or other ground alterations made by the Contractor shall be removed and the ground surfaces shall be returned to their former condition, or as near as practicable, in the Engineer's opinion.
- B. Surface and storm water that enters the Contractor's work area shall be controlled, treated, and disposed in a lawful manner. The Contractor shall conform to the requirements of the Storm Water Pollution Prevention Plan (SWPPP). The Contractor shall include the costs for compliance with this plan in the bid price named in Document 00310, "Bidding Sheet."

1.04 PROTECTION OF WATER FROM CONTAMINATION

- A. While working over water surfaces, the Contractor shall provide protection from falling debris, dust, liquid, and other objects into the water.
- B. Personnel working over water surfaces shall be protected from falling.

1.05 FIRE PROTECTION AND PREVENTION

- A. All parts of the work shall be connected with the Contractor's water supply system and adequately protected against damage by fire. Hose connections and hose, water casks, chemical equipment, and other equipment required by local jurisdictions shall be provided for fighting fires.
- B. The exhaust pipes of internal combustion engines used in the work shall be equipped with approved spark arresters.

1.06 DUST CONTROL

- A. The Contractor shall provide effective measures to prevent operations from producing dust in amounts damaging to personnel, property, SFWCA plant operations, plants, or animals, and to prevent causing a nuisance to persons living or occupying buildings in the vicinity.
- B. Areas used by the Contractor for construction roads or other purposes in connection with the work shall be given an approved dust inhibiting surface treatment to avoid production of dust. This surface condition shall be continuously maintained during the entire construction period. The Contractor's construction facilities shall be operated in a manner ensuring minimum dust production.

Construction Facilities and Temporary Controls

- C. Trucks transporting soil, or cement, or debris shall be covered or moistened with water to suppress the dispersion of dust.

1.07 LIGHT ABATEMENT

- A. The Contractor shall exercise special care to direct floodlights to shine downward at an angle less than horizontal. These floodlights shall also be shielded to avoid a nuisance to the surrounding areas. No lighting shall include a residence in its direct beam. The Contractor shall correct lighting nuisance whenever it occurs.

1.08 AIR POLLUTION CONTROL

- A. The Contractor shall not discharge smoke, dust, or other air contaminants into the atmosphere in a quantity that exceeds the legal limit.
- B. The Contractor shall maintain equipment in proper mechanical adjustment to minimize the volume of exhaust emissions.

1.09 NOISE CONTROL

- A. The Contractor shall conduct operations to abate noise wherever possible and to minimize noise where complete abatement is not possible.
- B. To limit noise, construction vehicle equipment shall be kept in proper working order for the duration of the construction activities.

1.10 CLEANING UP

- A. During all phases of construction, including suspensions of the work, and until final acceptance the Contractor shall keep the site clean and free from rubbish and debris.
- B. Upon completion of the work and before the final estimate is submitted, the Contractor shall satisfactorily dispose of or remove from the vicinity of the work all plants, buildings, rubbish, unused materials, concrete forms, and other equipment and materials used during construction.
- C. If the Contractor fails to maintain the premises in a neat and clean condition or fails to remove and dispose of rubbish or materials at the completion of the project, the area may be cleaned and materials, equipment, and rubbish may be removed and disposed of by SFWCA at the Contractor's expense.
- D. The Contractor will not be permitted to use SFWCA's trash bins for disposal of trash or rubbish.

1.11 PROTECTION OF NEW AND EXISTING IMPROVEMENTS

- A. The general locations of existing utility installations shown on the drawings are those that are known to exist, but this listing shall not be construed as a complete listing.
- B. The Contractor shall pothole to determine depth and location of existing pipelines and utilities underground. The Contractor shall determine clearance for aboveground utilities.
- C. The Contractor shall cover and protect finished surfaces of new or existing improvements with plywood, falsework, or other protective temporary works, as necessary.

1.12 RESTORATION OF IMPROVEMENTS

- A. Upon completion of the work, the Contractor shall reconstruct existing roads to a condition equivalent to that which existed before the start of work.

1.13 SECURITY

- A. The Contractor shall prevent unauthorized personnel or vehicular entry into the project site.
 - B. The Contractor shall be responsible for providing security within the work site as the Contractor deems necessary for the protection of its own equipment, materials, or work from vandalism or theft. SFWCA will not be responsible for theft or damage to the Contractor's equipment, materials, or work.
 - D. All staff working for or representing the Contractor, including subcontractors and suppliers, shall possess a valid US or State government issued identification card or drivers license with a photograph of the staff member.
- E. The Contractor shall provide the names of all Contractor, subcontractor and supplier employees working on or visiting the project. Additionally, the Contractor shall provide to the Engineer the valid US or State government issued

identification card number or drivers license number for each contractor, subcontractor and supplier employee working on or visiting the project. Any other form of identification will be subject to approval by SFWCA.

PART 2 **PRODUCTS** (NOT USED)

PART 3 **EXECUTION** (NOT USED)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01505
MOBILIZATION [AND DEMOBILIZATION]

PART 1 GENERAL

1.01 MOBILIZATION

- A. Mobilization shall include moving onto the site; payment for bonds and insurance, ordering major equipment; furnishing construction equipment; and furnishing and erecting plants, temporary buildings, and other construction facilities for the performance and completion of the work.
- B. Prior to mobilization to site, construction equipment that may contain invasive plant, plant parts, or seeds shall be cleaned free of said material.

1.02 DEMOBILIZATION

- A. Demobilization shall include, but not be limited to, moving off the site; disassembling and removing construction plant, equipment, temporary buildings and other construction facilities; and cleanup of the site.
- B. Prior to demobilizing from site, construction equipment that may contain invasive plants, plant parts, or seeds shall be cleaned free of said material.

1.03 PAYMENT FOR MOBILIZATION

- A. Mobilization and Demobilization items shall be reflected in the Schedule of Values in their respective locations. Progress Payments will reflect mob
- A. As soon as practicable after receipt of the Notice to Proceed, the Contractor shall submit a breakdown showing the relative value of each major component of mobilization in the Schedule of Values, including furnishing bonds and insurance, where the total of all these values is equal to the amount of Bid Item No. A1 of Document 00310, "Bidding Sheet." This breakdown, when approved by the Engineer, shall be the basis for determination of percentage completion and progress payments including those for mobilization.
- B. Progress payments for mobilization will be included in Progress Payments based upon the Schedule of Values of the price named in the Bidding Sheet under Item No. A1.
- C. The cost for mobilization under Bid Item A1 shall not exceed 10 percent of the total Schedule A and Schedule B base bid (excluding the Additive items) without documented justification, nor shall the Contractor submit for payment of all of the funds under this item until demobilization has been completed.
- D. The cost for mobilization under Bid Item B1 shall include all costs associated with the Contractor's costs for remobilization to the site if Schedule B work is to be completed in a second construction season. The cost for remobilization under Bid Item B1 shall not exceed 5 percent of the total Schedule B Base Bid (excluding the Additive items).

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01510 TEMPORARY UTILITIES AND SERVICES

PART 1 GENERAL

1.01 REFERENCES

A. General

1. The publications listed below form a part of this specification to the extent referenced.
2. Where a date is given for reference standards, the edition of that date shall be used. Where no date is given for reference standards, the latest edition available on the date of Notice Inviting Bids shall be used.

B. National Fire Protection Association (NFPA)

1. National Electrical Code (NEC)

1.02 SUBMITTALS

A. Plans: A plot plan drawing of temporary utility layouts shall be submitted to the Engineer's field office. A single line diagram of the temporary construction power system shall be included.

B. Permits: The Contractor shall obtain and pay for all permits for temporary utilities and shall submit one copy of each permit to the Engineer's field office.

1.03 WATER

A. The Contractor shall provide the water required for its operations. The quality of water provided shall be suitable for each construction purpose.

B. The Contractor shall be solely responsible for the adequate functioning of its water supply system and shall be solely liable for claims or damage resulting from its use.

C. The Contractor shall provide and operate pumps, pipelines, valves, hydrants, storage tanks, and other equipment necessary to store and convey an adequate supply of water from the source to each work area. The design of the storage and conveyance system shall include consideration of the Contractor's plan for fire protection.

D. Potable water shall be furnished by the Contractor from its own sources and shall be in accordance with applicable laws and regulations for potable water.

E. Treated and untreated water supply outlets shall be labeled in accordance with applicable laws and regulations.

1.04 ELECTRICITY

A. Electrical Power: The Contractor shall provide the power required for its operations. The Contractor shall provide and maintain, in good order, power equipment and installations to perform the work required.

1. Construction Lighting: When work is permitted to be conducted at night or under conditions of deficient light, the work area shall be suitably lighted to afford adequate illumination for performance and inspection of the work. Lighting for construction activities shall be directed away from residential areas, public highways, and roads.

B. Construction Electrical Wiring and Equipment: Construction electrical wiring and equipment shall be in accordance with CCR Title 8 and NEC.

1.05 TELEPHONE

A. The Contractor shall provide and maintain the telephone equipment and service required for its operations. At all times during the progress of the work, not less than one telephone shall be maintained in good order at each work site. If the Contractor elects to provide wireless telephone service, the area code of the wireless service shall be the same as the area code where the project is located.

B. The Contractor shall permit SFWCA personnel and the authorized representatives of affected public authorities free and unlimited use of these telephone facilities for calls that do not involve published toll charges.

Temporary Utilities and Services

1.06 SANITATION

- A. The Contractor shall provide and maintain sanitary conveniences for the use of all persons employed on the work. They shall be in sufficient number and at such places as ordered or approved by the Engineer and shall be in accordance with CCR Title 8.
 - 1. Fixed or portable chemical toilets shall be provided wherever needed for the use of employees.
 - 2. Washing facilities shall be provided wherever needed for the use of employees.
- B. Sanitary fixtures, receptacles, toilet rooms, washrooms, and lavatories shall be kept clean and shall be frequently disinfected. The cleaning and disinfection of sanitary conveniences shall not be less than twice a week.

1.07 OTHER UTILITIES

- A. The Contractor shall provide and maintain all other utilities required for its operations under the Contract.

1.08 REMOVAL OF TEMPORARY UTILITIES

- A. Each temporary utility shall be removed, in accordance with Section 01590, as soon as the need for it has ended.
- B. The Contractor shall remove the Contractor's field office promptly upon written direction from the Engineer. Utility services shall be disconnected and capped. The area shall be restored, clean and free of any evidence of scarred landscape or damage to the surrounding vegetation.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

**SECTION 01540
LOAD RESTRICTIONS**

PART 1 GENERAL

1.01 REFERENCES

A. General

1. The publications listed below form a part of this specification to the extent referenced.
2. Where a date is given for reference standards, the edition of that date shall be used. Where no date is given for reference standards, the latest edition available on the date of the Notice Inviting Bids shall be used.

B. American Association of State Highway and Transportation Officials (AASHTO)

1.02 SUBMITTALS

- A. Specifications for equipment to be used at existing or newly constructed pipelines, utilities, and structures shall be submitted to and approved by the Engineer before use.
- B. If the Contractor desires to exceed the specified load restrictions, the Contractor shall submit the request to the Engineer for approval.

1.03 LOADING

- A. The Contractor shall use caution in performing the work and shall use methods that avoid the imposition of heavy loads and surcharges on new or existing pipelines, utilities, and structures.
 1. Loads shall not be placed upon or against recently completed concrete structures until the concrete has attained its full design strength.
 2. The Contractor shall furnish shoring and bracing that is required to prevent collapse, deflection, deformation, or other damage to structures, conduits, or pipelines during construction or backfill operations.
 3. Shoring and bracing shall not be removed until the work requiring their use has been completed and the Engineer has approved the removal.
- B. Excavation, backfill, and other work in the vicinity of existing piping, utilities, and structures shall be performed only by methods and with equipment approved by the Engineer.
 1. Pipeline and Utilities Load Restrictions
 - a. Within a lateral distance from the outside edge of a pipeline or utility that is equal to the depth from the ground surface to the invert of the pipe, loads imposed by the construction work or by equipment shall be governed by the restrictions shown in Table 1 below.

Table 1. Maximum Loading at Pipeline or Utility

Height of Fill Over Pipe (feet)	Maximum Loading
≤ 2	Hand-guided equipment
2-4 incl.	Tractor equipment to 25,000 lbs
4-5 incl.	AASHTO H-20
> 5	Cat 633E

- b. For crossings, vehicle path shall be maintained in a smooth condition with no breaks in grade for 3 vehicle lengths on each side of the pipeline.
 2. Structure Load Restrictions: For backfill on new structures, or for excavations adjacent to existing structures, loads imposed on structures by construction work or equipment adjacent to backfilled or partially backfilled structures shall not exceed AASHTO H-20 loading. Load restrictions shall be limited to those areas within a lateral distance from the outside face of buried structures equal to the backfill depth.

1.04 DAMAGE

- A. The Contractor shall be liable for damage caused by excessive loads and shall repair or restore damaged facilities at no additional cost to Metropolitan.

Load Restrictions

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

**SECTION 01550
ACCESS, PARKING, AND TRAFFIC**

PART 1 GENERAL

1.01 REFERENCES

A. General

1. The publications listed below form a part of this specification to the extent referenced.
2. Where a date is given for reference standards, the edition of that date shall be used. Where no date is given for reference standards, the latest edition available on the date of the Notice Inviting Bids shall be used.

B. California Department of Transportation (Caltrans)

1. Manual of Traffic Controls for Construction and Maintenance Work Zones

1.02 SUBMITTALS

- A. The Contractor shall submit a copy of the haul route permit.

1.03 ACCESS TO THE WORK SITE

- A. The Contractor shall coordinate with the Engineer to determine appropriate routing of vehicles and personnel to and from the project.
- B. In case of need to enter the site after normal working hours, access shall be arranged in advance with the Engineer.
- C. The Contractor shall confine its activities and operations within the work area shown on the drawings except as otherwise permitted by the Engineer.
- D. Contractor personnel shall be prohibited access to the existing clubhouse except for the specific areas necessary for the performance of the work.

1.04 TRAFFIC CONTROL

- A. The Contractor shall be responsible for the safe movement of vehicular traffic to and from the worksite, including traffic control measures required to ensure safe passage of vehicles and equipment.

1.05 HAUL ROUTES

- A. If a permit is required by local authorities for off-site hauling of materials, the Contractor shall prepare the truck-routing plan, obtain the permit, and submit a copy of the permit to the Engineer before construction begins.
- B. The plan shall include provisions for cleaning soil and rock from the truck route.
- C. Consideration shall be given to weight restrictions on all roads.
- D. The Contractor shall inform the Engineer and local authorities when hauling operations are to begin and end.

1.06 ACCESS ROADS

- A. Throughout the entire Contract period, the Contractor shall share access roads, both those constructed by the Contractor or otherwise provided for Contractor's use, with SFCWA and adjacent property owners and their agents representatives, utility companies, State and Federal workers, and other contractors whose work is adjacent to the Contractor's work.
1. Coordination with other contractors shall be the responsibility of the Contractor. In case of conflicts or disputes, the Engineer's decision will be final.
 2. The Contractor shall be responsible for the maintenance and upkeep of access roads constructed by the Contractor.
 3. The Contractor shall provide dust control on project access roads used in Contractor operations and on those roads subject to dust because of conditions created by the work.
 - a. Roads shall be sprayed by water truck at as needed to comply with the SWPPP or more frequently during actual haul operations.

1.07 PARKING

- A. On-site parking areas for Contractor personnel shall be limited to the areas shown on the drawings.
 - 1. Parking areas required in excess of those areas shown shall be developed by the Contractor, off-site, at the Contractor's expense.
 - 2. The Contractor shall provide transportation for personnel from parking areas to the work areas.
 - 3. The Contractor's personnel, suppliers, and delivery vehicles shall not block access to access roads to adjacent properties.
 - 4. At the Contractor's option, the Contractor's personnel may park in the area designated for Contractor storage unless prohibited by Engineer.
- B. The Contractor's personnel shall not park personal vehicles on access roads.
 - 1. A printed placard providing this information shall be displayed on the dashboard of each vehicle.
 - 2. At the request of the Engineer, the owner of the vehicle shall sign a waiver of damage responsibility.
 - 3. The Engineer may rescind or modify this privilege at his discretion

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01572 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

PART 1 GENERAL

1.01 REQUIREMENTS

- A. SFWCA has established a goal for the Contractor to reuse or recycle a minimum of 50 percent of the construction and demolition debris generated by the project. At a minimum, the Contractor shall meet local waste management regulations specifying minimum percentages of reuse or recycling of construction and demolition waste and debris.
- B. The Contractor shall comply with the requirements of local waste management authorities to promote sustainable building efforts by creating a resource-efficient and environmentally sensitive project and maintaining optimum control of the construction and demolition waste generated during the project.

1.02 DEFINITIONS

- A. Class III Landfill: A landfill that accepts non-hazardous solid waste such as household, commercial, and industrial solid waste. A Class III landfill must have a California Integrated Waste Management Board (CIWMB) solid waste facilities permit and is regulated by the local enforcement agency (LEA).
- B. Construction and Demolition Recycling Guide (CDRG): A publication by the City of Los Angeles Bureau of Sanitation, Solid Resources Citywide Recycling Division (available at www.lacity.org/san/solid_resources).
- C. Construction and Demolition (C&D) Debris: Solid waste and recyclable materials that result directly from construction, remodeling, repair, or demolition of buildings and other structures, do not contain hazardous waste (as defined in CCR Title 22, Section 66621.3, *et seq.*), and contain no more than one percent putrescible wastes by volume, calculated on a monthly basis. C&D debris may include, but is not necessary limited to asphalt, concrete, Portland cement, brick, lumber, wallboard, roofing material, ceramic tile, pipe, glass, carpet and associated packaging.
- D. Disposal: Acceptance of solid waste at a legally operating facility for the purpose of land filling.
- E. Diversion: Activities that result in reducing the amount of waste disposed at a landfill. This can include source reduction activities, composting, recycling, and reuse.
- F. Local Enforcement Agency (LEA): The local waste management authority responsible for C&D debris recycling enforcement. The LEA may not exist in all projects. In such cases, the Contractor shall comply with SFWCA's requirements.
- G. Mixed Debris: Material that includes commingled recyclable and non-recyclable construction and demolition debris.
- H. Mixed Debris Processing Facility: A solid waste processing facility that accepts loads of mixed debris for the purpose of recovering re-usable and recyclable materials and disposing of the non-recyclable residual materials. See also Certified Mixed Debris Processing Facility.
- I. Permitted Waste Hauler: A company that possesses a valid and current permit from the local authority to collect and transport solid waste from individuals or businesses.
- J. Putrescible Waste: Solid waste that contains organic matter capable of being decomposed by microorganisms and causing odors.
- K. Recycling: The process of sorting, cleaning, treating and reconstituting materials for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating, or thermally destroying solid waste.
 - 1. On-site Recycling: Materials that are sorted and processed for use in an altered form in the project, (e.g. concrete is crushed for use as base for a parking lot on the site)
 - 2. Off-site Recycling: Source-separated materials hauled to another location and used in an altered form in the manufacture of a new product.
- L. Recycling Facility: An operation that can legally accept materials for the purpose of processing the materials into an altered form for the manufacture of a new product. Depending on the types of materials accepted and operating procedures, a recycling facility may or may not be required to have a Solid Waste Facilities permit from the CIWMB or be regulated by the LEA.

- M. Source Reduction: Any action causing a net reduction in the generation of solid waste. Source reduction includes, but is not limited to, reducing the use of non-recyclable materials, replacing disposable materials and products with reusable materials and products, reducing packaging, and reducing the amount of yard waste generated.
- N. Source-Separated Materials: Material that is sorted at the site of generation by individual material type for the purpose of reuse or recycling, i.e., loads of concrete that are source-separated for delivery to a base course recycling facility to be crushed into road base material.
- O. Solid Waste: Waste that the CIWMB has deemed acceptable for disposal at a Class III Landfill and shall not include source-separated material.
- P. Transfer Station: A facility that can legally accept solid waste for the purpose of temporarily storing the materials for re-loading onto other trucks and transporting them to a landfill for disposal, or recovering some materials for reuse or recycling. Transfer stations must be permitted by the CIWMB and regulated by the LEA.

1.03 SUBMITTALS

A. Construction and Demolition Waste Management Plan (C&D WMP)

1. The Contractor shall conduct a site assessment and estimate the types and quantities of materials, under the project, that are anticipated for on-site or off-site processing, recycling, reuse, or disposal, whether the work is performed by the Contractor or a subcontractor, and discuss the C&D WMP with the Engineer at the pre-construction meeting to allow the Engineer and the Contractor an opportunity to develop a mutual understanding regarding the recycling and reuse requirements and programs.
2. Prior to mobilizing or starting work on site, the Contractor shall prepare and submit to the Engineer a written C&D WMP, and receive approval from the Engineer. The plan shall show the required recycling for inert debris and the remaining C&D debris expected from the project, whether the work is performed by the Contractor or a subcontractor, as set forth in this section. The Contractor shall submit the plan in the format provided herein as Attachment A. Instructions for filling out the form are in Attachment A, Instruction Sheet.
3. In the event the LEA also requires the C&D WMP to be submitted for its approval, the Contractor may use LEA-required forms in lieu of SFWCA-furnished forms in its submittal to SFWCA. Submittals and/or approvals from the LEA shall be included in the submittal to SFWCA, or shall be copied to SFWCA separately.
4. If the Contractor seeks an exemption that is approved by the LEA, the Contractor may revise and resubmit the C&D WMP.
5. If the Contractor fails to meet the LEA minimum requirements, the Contractor will be subject to the stipulated penalties assessed by the LEA.
6. The Engineer's approval of the Contractor's C&D WMP will not relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protection measures and meeting state and local diversion requirements.

B. Solid Waste Diversion and Disposal Report (SWDD Report):

1. With each submittal of the Contractor's application for progress payment, the Contractor shall prepare and submit to the Engineer a written SWDD Report quantifying all materials generated in the project which was either disposed, or diverted from disposal through reuse or recycling during the time period covered by the SWDD Report and progress payment.
2. The SWDD Report shall include a cumulative summary of the diversion and disposal for the project. The Contractor shall submit the report in the format provided herein as shown in Attachment B.
3. The SWDD Report shall include appurtenant supporting documentation such as manifests, weight tickets, receipts, reports, invoices, and other supporting documents specifically identifying the project, the recyclables and solid waste generated by the project, and where the material was sent. Instructions for filling out the forms are in Attachment B, Instruction Sheet.
4. A final SWDD Report shall be submitted and cover the complete time period of the project including a cumulative summary, listing the total waste disposed and/or diverted for the entire duration of

construction and demolition activities. The final SWDD and supporting documentation must be submitted 20 working days prior to application for final payment.

1.04 PENALTY

- A. If the diversion requirement is not met during the course of the project, the Contractor shall report their failure to the LEA as applicable. The Contractor shall be responsible for all penalties that are assessed by the LEA for not meeting the diversion requirement.
- B. In the event a penalty is assessed, the Contractor shall submit copies of all correspondence and any penalty assessment imposed by the LEA within 3 working days of such transactions to SFWCA. Assessed penalties shall be the sole responsibility of the Contractor.

1.05 REUSE, SALVAGE, AND RECYCLING OPTIONS

- A. Options for reuse and recycling include the California Materials Exchange (CalMAX), a free program sponsored by the CIWMB. The most recent issues of the CDRG, contains contact information for non-profit organizations, salvage facilities and other reuse organizations.
- B. Recycling may include both on-site and off-site recycling of source-separated materials, as well as mixed debris recycling efforts, provided the on-site recycling is submitted and approved by the Engineer, and the processing or use of such materials does not violate any local, State or Federal regulations, or any portion of these specifications.
- C. At a minimum, the Contractor shall develop and implement a program to source separate and recycle solid waste of the following types:
 - 1. Asphalt
 - 2. Concrete, concrete block, slump stone (decorative concrete block)
 - 3. Rock
 - 4. Metal
 - 5. Wood (lumber)
 - 6. Green material (i.e. tree trimmings)
 - 7. Other materials, as appropriate, such as electrical items, building fixtures, architectural details, dry wall, carpet, carpet padding, and corrugated cardboard.
 - 8. NOTE: Recycled products SHALL NOT be incorporated into the construction of hydraulic structures.
- D. Mixed Debris Recycling: The Contractor shall develop and implement a program to transport loads of commingled construction and demolition materials that cannot be feasibly source separated to a mixed debris recycling facility. A list of these facilities can be obtained from the LEA.
- E. Certified Processors: These facilities have facility recycling rates, established by the State and/or LEA for each mixed debris waste stream. Mixed C&D debris taken to these facilities will be considered to have been recycled at the rate of the certified processing facility. For example, 100 tons of material taken to a facility with a recycling rate of 60 percent gives the project credit for 60 tons of recycling. A list of these facilities and their recycling rates is in the most recent issue of the CDRG.
- F. Fees: All fees assessed by the LEA shall be paid by the Contractors.
- G. Revenues: All revenues, rebates or savings obtained from recycled, reused, or salvaged materials, except those items designated by the contract documents to be salvaged for SFWCA's use, shall be retained by the Contractor.

1.06 HAULING AND DISPOSAL OPERATIONS

- A. Hauling: The Contractor is responsible for arranging the collection and hauling of C&D debris by a waste hauler that is permitted by the local waste management authority.
- B. Recycling and Processing Facilities: The Contractor shall be responsible for transporting C&D debris to recycling or processing facilities. The Contractor shall be familiar with the requirements for acceptance of C&D materials at the recycling and processing facilities before the material is delivered.
 - C. Disposal Facilities: The Contractor shall be responsible for transporting C&D debris that cannot be delivered to a recycling or processing facility, to a transfer station or disposal facility that can legally accept the materials for the purpose of disposal.

Construction and Demolition Waste Management

D. Site Disposal: The Contractor shall not burn, bury, or otherwise dispose of solid waste on the jobsite.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

ATTACHMENT A

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT PLAN

Project Title:	Contract No.:	Spec No.:	Date Submitted:	
Contractor:		Phone No.:		
Address:		Fax No.:		
Name / Title of Responsible Person:		Signature:		
Diversion Methods: 1) Hand-Wrecking to recover salvageable materials to be used on-site. 2) Hand-Wrecking to recover salvageable materials to be taken off-site. 3) Hauling debris to an engineered fill. 4) On-site concrete and asphalt crushing for use on-site. 5) On-site concrete and asphalt crushing for use off-site. 6) Source separating materials and hauling to recyclers. 7) Other, please describe: _____				
Material	Diversion Facility & Location	Diversion Method(s)	Tons Diverted	Tons Disposed
Asphalt				
Concrete				
Glass				
Wood/Green Waste				
Metal Describe: _____				
Metal Describe: _____				
Cardboard				
Mixed Debris				
Other: _____				
Other: _____				
Other: _____				
DIVERSION AND DISPOSAL TOTALS =				
ESTIMATED RECYCLING PERCENTAGE = $\frac{\text{(Total Diverted)}}{\text{(Total Diverted + Total Disposed)}} \times 100 = \frac{\text{()}}{\text{(+)}} \times 100 = \text{ } \%$				

Attachment A
Instruction Sheet

1. All information required in the attachment shall be provided. Please print clearly or type.
2. Indicate the facilities and locations to which materials will be delivered for reuse, recycling, or disposal. These facilities can include:
 - a. Source Separated Recycling Facilities
 - b. Mixed Debris Recycling Facilities
 - c. Class III Landfills
 - d. Salvage yards
 - e. Transfer Stations
3. Diversion methods to be used for recycling, reusing, salvaging and disposing of materials shall be chosen from the list or specified by the Contractor if the method is not listed.
4. Estimate quantities of all materials shall be listed by weight. Report disposal, reuse, or recycling in tons. Indicate zero (0) if there is no quantity to report for a type of material.
5. Calculate the recycling and disposal amounts for mixed debris taken to a certified processor as follows:
 - a. Tons to be diverted (recycled amounts) = Total tons to be taken to certified processor times the certified recycling rate.
 - b. Tons to be disposed (disposal amounts) = Total tons to be taken to facility minus the recycled amounts.
 - c. For example, 100 tons taken to a certified processor with a recycling rate of 63% yields 63 tons of diversion and 37 tons of disposal.
6. Calculate the recycling percentage by dividing the total diverted amounts by the sum of the total diverted and disposed amounts, and multiplying the outcome by 100 in order to obtain the percentage (see formula in Attachment A).

ATTACHMENT B**SOLID WASTE DIVERSION AND DISPOSAL REPORT**
FOR THE PERIOD FROM: _____ TO: _____

Project Title:		Contract No.:		Spec No.:		Date Submitted:	
Contractor:				Phone No.:			
Address:				Fax No.:			
Name / Title of Responsible Person:				Signature:			
Material	Diversion Facility & Location	Tons Diverted (This Period)	Tons Diverted (To Date)	Tons Disposed (This Period)	Tons Disposed (To Date)		
Asphalt							
Concrete							
Glass							
Wood/Green Waste							
Metal Describe: _____							
Metal Describe: _____							
Cardboard							
Mixed Debris							
Other: _____							
Other: _____							
Other: _____							
DIVERSION AND DISPOSAL TOTALS =							
RECYCLING PERCENTAGE TO DATE (Cumulative) =							
<u>(Total Diverted To Date)</u>				X 100 =			
(Total Diverted To Date + Total Disposed To Date)							
<u>()</u>				X 100 = %			
(+)							

Attachment B Instruction Sheet

1. With each submittal of Contractor's application for progress payment, the Contractor shall prepare and submit to the inspector a written Solid Waste Diversion and Disposal Report quantifying all materials generated in the project that were either disposed in landfills or diverted from disposal through recycling or reuse. Submit the report in the format provided as Attachment B.
2. All information required in the attachment shall be provided. Please print clearly or type.
3. Report disposal, reuse, or recycling quantities in tons. Indicate zero (0) if there is no quantity to report for a type of material. Report the quantities for the reporting period and also the cumulative to date quantities for the project since start of construction.
4. Indicate the facilities and locations to which materials are delivered for reuse, recycling, or disposal. These facilities can include:
 - i. Source Separated Recycling Facilities
 - ii. Mixed Debris Recycling Facilities
 - iii. Class III Landfills
 - iv. Salvage yards
 - v. Transfer Stations
5. The Solid Waste Diversion and Disposal Report must be accompanied by legible copies of weigh tickets, receipts, or invoices that specifically identify the project generating the material. Said documents must be from recyclers and/or disposal site operators that can legally accept the materials.
6. If materials are taken to a facility for which weigh tickets, receipts, or invoices are not available, Contractor shall provide certified documentation on company letterhead identifying the address to which materials were taken, name of owner/operator, type of materials, tons disposed, and the specific project generating the materials.
7. If materials are used on site, Contractor shall provide documentation on company letterhead identifying the type and tons of materials being reused or recycled on site and the specific project generating the materials
8. Calculate the recycling and disposal amounts for mixed debris taken to a certified processor as follows:
 - a. Tons to be diverted (recycled amounts) = Total tons to be taken to certified processor times the certified recycling rate.
 - b. Tons to be disposed (disposal amounts) = Total tons to be taken to facility minus to the recycled amounts.
 - c. For example, 100 tons taken to a certified processor with a recycling rate of 63% yields 63 tons of diversion and 37 tons of disposal.
9. Calculate the cumulative recycling percentage to date by dividing the total diverted amounts to date by the sum of the total diverted and disposed amounts to date, and multiplying the outcome by 100 in order to obtain the percentage (see formula in Attachment B).

SECTION 01610 DELIVERY STORAGE AND HANDLING

PART 1 GENERAL

1.01 SUBMITTALS

- A. Product Data: Two copies of the manufacturer's printed recommendations for storage, handling, and protection of materials, articles, and equipment to be incorporated in the work shall be submitted a minimum of 40 days prior to the receipt of the material, article, or equipment at the site.
- B. Test Reports and Certifications: Items requiring certification or mill test reports shall not be delivered or unloaded until 5 copies of the certification or mill test report have been delivered to the Engineer's field office.

1.02 GENERAL

- A. Materials, articles, and equipment shall be delivered, stored, and handled in accordance with these specifications and the printed recommendations of the manufacturer; using means and methods that will prevent damage, deterioration, and loss, including theft.

1.03 DELIVERY

- A. Delivery shall be scheduled to minimize long-term storage at the site and to prevent overcrowding of construction spaces. Special emphasis shall be placed on ensuring minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, or other losses.
- B. Items shall be delivered to the site in the manufacturer's original sealed container or packaging system, complete with legible and intact labels and instructions for handling, protecting, storing, and unpacking. The label shall include the manufacturer's name, product name, manufacturing batch number (if appropriate), expiration date, ANSI hazard classification and ANSI handling precautions, if applicable.

1.04 STORAGE

- A. Items subject to damage by the elements shall be stored in a warehouse or within a weatherproof enclosure or wrap that has adequate ventilation to prevent condensation and keeps the items off of the ground. Flammable materials shall be stored in a separate area. Temperature and humidity shall be maintained within the range required by the manufacturer's printed recommendations.
- B. Materials and equipment that are to be included in the Contractor's estimate for partial payment shall be stored in a manner that will facilitate inspection and inventory. Items requiring periodic maintenance or inspection shall be stored in a manner that will facilitate these operations.
- C. If the Engineer determines that satisfactory storage of an item is not being provided by the Contractor, the Engineer may direct the Contractor to provide additional protection. If the Contractor fails to provide the additional protection, protection may be provided by SFCWA. The cost for providing the protection may be charged to the Contractor or deducted from payment due the Contractor.
- D. Installed items shall have protection provided equivalent to that specified above, with additional regard for possible damage or loss due to continuing construction operations.

1.05 HANDLING

- A. The Contractor shall supply appropriate equipment and personnel to handle materials, articles, and equipment in a safe manner and in a manner that will not cause damage to the product, to the environment, to work in progress, or to work in place.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01740 GUARANTEE AND WARRANTY

PART 1 GENERAL

1.01 GUARANTEE AND WARRANTY REQUIREMENTS

- A. The Contractor shall warrant and guarantee that the entire work constructed under the Contract fully meets all requirements of the Contract.
- B. The Contractor shall further warrant and guarantee that all work, including materials, articles, and equipment furnished by the Contractor under the Contract, shall be free of deficiencies and defects for the guarantee period of [2] years after the date of final acceptance of the work.
- C. The Contractor shall further warrant and guarantee to make or have made at Contractor's expense repairs, adjustments, replacements, or other corrective work necessary to restore or bring into full compliance with the requirements of the specifications any part of the work which during the guarantee period is found to be deficient with respect to any provision of the specifications.
 - 1. If a defect or deficiency is of a kind which in the opinion of the Engineer requires immediate correction to avoid injury to SFCWA, the Engineer may make or have made such repairs, adjustments, replacements, or other corrective work and the Contractor agrees to promptly pay the SFCWA invoice for the corrective work.
 - 2. If a defect or deficiency is of a kind which in the opinion of the Engineer does not require immediate correction but the Contractor has failed to undertake corrective work within 5 working days of receipt of written notice from the Engineer, the Engineer may make or have made such repairs, adjustments, replacements, or other corrective work and the Contractor agrees to promptly pay the SFCWA invoice for the corrective work.
 - 3. SFCWA will have the right to use deficient material and equipment after installation until it can be taken out of service without injury to SFCWA.
- D. The guarantees and agreements set forth herein shall be secured by Document 00610, "Bond for Faithful Performance" furnished by the Contractor to SFCWA at the time of execution of the Contract, which bond shall be deemed to continue in effect during the period of guarantee.
- E. This guarantee is not the exclusive remedy for SFCWA in the event of any breach of this Contract.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 02010 DEMOLITION

PART 1 GENERAL

1.01 SUBMITTALS

- A. At least 5 working days in advance of cutting operations, the Contractor shall submit a proposed schedule and methods for the demolition and cutting work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

- A. The Contractor shall perform the demolition required for joining and tying in new work to existing work. Items removed temporarily for the convenience of the Contractor shall be replaced to the satisfaction of the Engineer.
 - 1. Existing utilities, piping systems, telephone, communications, and data systems, and electrical and mechanical equipment to remain in place shall be adequately supported, protected, and maintained until work is complete.
 - 2. Features or items that are damaged by the Contractor during the course of the work shall be repaired and restored to a state equal or superior to that which existed before beginning of the work, as judged by the Engineer.

3.02 WORK TO BE ACCOMPLISHED BEFORE DEMOLITION

- A. The Contractor shall not begin demolition until the Engineer has reviewed and accepted the Contractor's proposed schedule and methods of performing the demolition work.
- B. The Contractor shall obtain and verify measurements for modification work and shall establish exact layouts, locations, lines, and elevations of work in relation to existing conditions.
- C. Prior to commencing cutting operations in an area, the Contractor shall verify that:
 - 1. All utilities and piping in the area are located.
 - 2. Piping and utilities to remain in service are rerouted, or supported and protected.
 - 3. Affected electrical equipment and circuits are de-energized and locked out.
 - 4. Affected telephone, communications, and data lines are disconnected.
 - 5. Affected piping is isolated, drained, flushed, or purged, and all valving to the lines is locked out.

3.03 DEMOLITION, SALVAGE, AND DISPOSAL

- A. Piping, electrical and mechanical equipment, and other items obstructing the new construction shall be carefully removed. Items designated as being salvageable in the contract documents shall be turned over to SFCWA. The Contractor shall transport and store salvageable items on the premises as directed by the Engineer. Items that are not designated to be salvaged shall be immediately disposed of off the site in a lawful manner.
- B. Unless otherwise shown on the drawings, piping that will be disconnected as a part of the work shall be removed if it is aboveground and abandoned in place if it is buried. Aboveground lines that enter the ground shall be cut off a minimum of 30 inches below grade and removed. The ends of abandoned-in-place lines shall be closed with welded or threaded caps, flanges, or concrete plugs. The supports for aboveground lines that are no longer required shall be removed. Lines that enter structures and are designated to be removed shall be flanged at both ends of the penetration through the structure.
- C. The Engineer shall be immediately advised if utilities that are not shown on the drawings are encountered during demolition operations. They shall not be disturbed until specific instructions are received from the Engineer.
- D. New work shall be joined to existing work as inconspicuously as practicable.
- E. Material that has been removed or demolished shall be immediately disposed of off the site in a lawful manner. While being handled and loaded, debris shall be moistened with water to settle dust. Upon completion of demolition work, the premises shall be left neat, clean, and in a condition to receive subsequent work.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 02110
CLEARING, GRUBBING, AND STRIPPING

PART 1 GENERAL

1.01 SUBMITTALS

- A. Contractor shall supply the Client with a plan and schedule of where and when clearing, stripping and placement will occur.
 - 1. Plan must be submitted at least 2 working days prior to pre-construction meeting, and must be approved by Engineer prior to start of Construction.

1.02 REQUIREMENTS

- A. Contractors shall follow directions on plan or as modified by Engineer in the field.
- B. Contractor shall upload electronic layout of clearing limits into all GPS equipment and hold daily meetings on work limit areas.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SCHEDULING

- A. Clearing, grubbing, and stripping shall be completed as a separate item of work before the beginning of excavation, stockpiling, trenching, or fill operations. The completed cleared areas must be approved by the Engineer before the Contractor begins subsequent earthwork items.
- B. Areas within the limits of excavation, embankment, marsh plain, access roads, and other facilities shall be cleared, grubbed, and stripped before earthwork begins.
- C. Borrow areas shall be cleared, grubbed, and stripped prior to use. These areas shall be cleared, grubbed, and stripped in stages, as necessary, to ensure that the areas are not contaminated.
- D. Areas to be used for stockpiling of material shall be cleared, grubbed, and stripped prior to stockpiling unless allowed by Engineer.

3.02 PRESERVATION OF EXISTING CONDITIONS

- A. Existing trees, shrubbery, other vegetation, structures, pavements, or utilities designated to remain in place shall be avoided from damage resulting from the work.
- B. Special protection shall be provided at areas identified by Engineer.

3.03 CLEARING, GRUBBING, AND STRIPPING

A. General

- 1. Clearing, grubbing, and stripping shall be within the limits of work unless approved by the Engineer.
- 2. Temporary surface, storm water, and erosion control in conformance with the approved Storm Water Pollution Prevention Plan (SWPPP) in accordance with Section 01070 shall be implemented concurrent with the clearing, stripping, and grubbing operations.
- 3. Waste-disposal areas shall be cleared, grubbed, and stripped only as necessary for the disposal of waste material and approved by Engineer.
- 4. Areas that have been cleared, grubbed, and stripped shall be maintained free of objectionable growth until the work has been completed.

B. Clearing

- 1. Clearing (removal) of vegetation shall be the mowing of trees, brush, weeds, grassed, and other organic materials to a standing height of 3" or less above existing grade. Material produced from the mowing shall not exceed 6" of thatch above existing grade. Any woody debris deemed too large to mow prior to and during the construction work, shall be removed and disposed of according to Section .

Clearing, Grubbing, and Stripping

2. Clearing shall occur on the marsh in spring (Approximately April 15) once the site has been dewatered (by others) and the site is firm enough to run equipment on. Clearing of levee slopes will occur in spring, but can be prior to, or in conjunction with, the clearing of the existing marsh plain. The clearing of an area must occur prior to any earthwork or discing in the same location. Clearing will also be required in all area and locations unforeseen and required by a Biological Monitor or Engineer. The time interval between clearing and earthwork shall be seven (7) days.
3. The Contractor may use existing levee tops and Noyce Slough Road to clear levee side slopes. The Contractor will contact the Engineer two (2) weeks prior to working on Noyce Slough Road for arrangements to have the road closed during clearing operations. The Contractor will remove all equipment off Noyce Slough Road 30 minutes prior to sunset and may begin work 30 minutes after sunrise. The Contractor shall move equipment as needed to allow access by other road users.
4. It is anticipated that clearing a location may take multiple passes.

C. Grubbing

1. Grubbing shall consist of digging up, removing, and disposing of objectionable material found at or below the ground surface such as trash, logs, and artificial obstructions of any kind that will interfere with the required excavations and construction.
2. Unless otherwise shown or specified, buried logs, and all other objectionable materials shall be removed to a depth of 3 feet below the existing ground surface, or the proposed excavation depth of all work or pipeline subgrade, whichever is deeper.

D. Stripping

1. Stripping shall consist of the removal of organic materials, topsoil, grass, and grass roots from the areas designated to be stripped.
2. Existing soil materials shall be stripped to a depth of 6 inches below the original ground surface.
3. Material shall be stripped from these areas:
 - a. 4th order channel
 - b. Stockpiles
 - c. Habitat berms
 - d. Tidal pannes
 - e. Marsh ridge
 - f. Marsh ponds
 - g. Maintenance berm
 - h. Marsh rim
4. Stripped materials shall be stored in accordance with Section 02200 and shall not be mixed with borrow materials, but shall be retained for placement on the top 6 inches above finished grade unless noted on plans or approved by Engineer. These designated areas are:
 - a. Habitat berms
 - b. Marsh ridge
 - c. Maintenance berm
5. The Contractor shall ensure that stripped materials are identified and marked so that they are not incorporated into fill or embankment.
6. No stripping will occur from 1st, 2nd or 3rd order channel locations, marsh mounds, and marsh berms.

3.04 DISPOSAL OF CLEARING, GRUBBING, AND STRIPPING DEBRIS

- A. Burning of combustible materials will not be permitted.
- B. Material removed from the jobsite shall be disposed of legally at a County licensed landfill.

END OF SECTION

SECTION 02140 CONTROL OF WATER

PART 1 GENERAL

1.01 APPLICATION

- A. Control of subsurface groundwater and surface water shall conform to this section. All water intended to be removed from the site, including dewatering in excavated areas, is considered to be excess water.

1.02 SUBMITTALS

- A. The Contractor shall submit to the Engineer, for approval, a complete and detailed plan and description of the control of water system they propose to control water at the project site during all elements of construction. The plan shall include response plans for protecting construction equipment and earthwork from exposure and damage due to high tide events and/or failure of the control of water system.
- B. All decisions in regard to acceptability of control of water methods will be made by the Engineer and all such decisions shall be final.

1.03 QUALITY ASSURANCE

- A. The discharge of water from the site shall be in accordance with the requirements of the federal, state, or local agencies having jurisdiction. The Contractor shall be responsible for determining the responsible authority and complying with its regulations.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

- A. Water discharged from the project site may only be discharged into the existing California Department of Fish & Wildlife ditch as shown in the Plans.
- B. Excess water may not be discharged onto the marsh plain or directly into Grizzly Bay or tributaries.
- C. The Contractor shall maintain safe and stable excavations. Further, the Contractor shall be prepared to handle inflows from high tides and perched water conditions. Except for shutdowns for maintenance of dewatering equipment, no interruption in the approved control of water procedures will be permitted during excavation and construction operations. The Contractor is responsible for any damages from excess water due to failure of their control of water system.
- D. If a system is installed to lower groundwater, the system shall be capable of providing continuous and reliable draw throughout the construction period. The Contractor shall be responsible for the design construction and maintenance of the system.
- E. The Contractor shall keep a daily log of the flow rate being discharged from the site. The information shall be transmitted to the Client on a monthly basis.

3.02 EARTHWORK

- A. Control of water shall not affect the bearing capacity of the subgrade soils at the proposed bottom of excavation.
- B. Flotation of pipelines and structures shall be prevented by maintaining a positive and continuous removal of water until the construction is completed to the design grades.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 02200 EARTHWORK

PART 1 GENERAL

1.01 REFERENCES

A. General

1. The publications listed below form a part of this specification to the extent referenced.
2. Where a date is given for reference standards, the edition of that date shall be used. Where no date is given for reference standards, the latest edition available on the date of Notice Inviting Bids shall be used.

B. ASTM International (ASTM)

1. ASTM D422, Standard Test Method for Particle-Size Analysis of Soils
2. ASTM D1556, Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
3. ASTM D1557, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lb/cu.ft. (2,700 kN-m/cu.m.))
4. ASTM D2419, Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
5. ASTM D2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
6. ASTM D4253, Standard Test Method for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table
7. ASTM D4829, Standard Test Method for Expansion Index of Soils
8. ASTM D4914, Standard Test Method for Density of Soil and Rock in Place by the Sand Replacement Method in a Test Pit
9. ASTM D5030, Standard Test Method for Density of Soil and Rock in Place by the Water Replacement Method in a Test Pit
10. ASTM D 6938, Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

C. California Department of Transportation (Caltrans)

1. Caltrans Standard Specifications
2. Caltrans Standard Plans
3. Caltrans Trenching and Shoring Manual

D. Standard Specifications for Public Works Construction (SSPWC)

E. United States Bureau of Reclamation (USBR), Earth Manual

1. USBR 7205, Procedure for Determining Unit Weight of Soils In-Place by the Sand-Cone Method
2. USBR 7230, Procedure for Determining Unit Weight and Moisture Content of Soils In-Place—Nuclear Moisture-Density Gauge

F. United States Naval Facilities Engineering Command (NAVFAC)

1. NAVFAC Design Manual 7.01-Soil Mechanics
2. NAVFAC Design Manual 7.02-Foundations & Earth Structures

1.02 SUBMITTALS

A. Material Samples: Representative samples of materials to be imported shall be submitted as 100-pound bulk packages. The Contractor shall certify their compliance with these specifications.

B. Test Reports and Certifications: The following test reports and certifications shall be submitted.

1. Certifications that all materials used are in accordance with these specifications. Certifications of compliance shall be submitted for each material and shall contain the following:
 - a. Name of supplier
 - b. Type of material being supplied and available quantity

- c. A statement that the material complies with these specifications
 - d. Copies of test results from a qualified testing laboratory
- C. Permits: Copies of permits required to perform the work, including permits applicable to street closures, excavation, and safety, shall be submitted.
- D. Plans, Calculations, and Procedures: The following plans, calculations, and procedures shall be submitted.
- 1. A drawing and method statement for control and disposal of surface water, including storm runoff and construction water, from the works.
 - 2. Proposed excavation plans, schedule and sequence of earthwork operations, including phasing and staging, and stockpiling plans.
 - 3. Detailed plans for the protection and the safety of workers when trenches and excavations are equal to or greater than 5 feet in depth. The plans shall include supporting design calculations and shall cite all references used to substantiate the calculations. If a support of excavation system is included in the plans, detailed procedures for the installation and removal of the support of excavation system shall be provided.
 - 4. Detailed plans, procedures, schedule, sequence and equipment to be used for excavation, placement, and compaction of soils adjacent to structures and pipelines greater than 24-inch in diameter.
 - 5. Plans, procedures, and related calculations for supporting utilities adjacent to, and across excavations.
 - 6. Size, weight, configuration and specifications of heavy equipment used in the work, including compaction methodology and equipment.

1.03 DEFINITIONS

- A. Percent Compaction—The ratio of the field in-place dry density to the laboratory maximum dry density, expressed as a percentage.
- B. Fill—For the purposes of this section, the words “fill,” “backfill,” and “embankment” are synonymous and refer to soils, rock, or soil-rock combinations that are conditioned, placed or replaced, and compacted to the percent compaction specified. Requirements for Fill do not apply to features in the drawings defined as “Boat Channel”, “Marsh Berm”, or “Marsh Mounds.” All other Fill features must meet requirements specified in this document.
- C. Special Fill Materials—The materials listed in the applicable section of this specification, other than fill, backfill slurry, and rip-rap.
- D. Geotextile—The words “geotextile” and “filter fabric” are synonymous.

1.04 QUALITY ASSURANCE

- A. Imported materials shall match the initial samples. The Engineer will periodically test the materials, and deviations from these specifications or the approved samples will constitute grounds for rejection.
- B. Certificates of Compliance
 - 1. A certificate of compliance will not relieve the Contractor of responsibility for incorporating material into the work which is in accordance with the drawings and these specifications.
- C. Submittals and supporting calculations for excavation plans, including, but not limited to, temporary sloped excavations, slope stabilization, and/or slope reinforcement, shall be prepared, signed, and stamped by a civil or geotechnical engineer currently registered in the State of California.
- D. Submittals and supporting calculations for support of excavation systems, including, but not limited to, shoring, bracing, and/or sheeting, shall be prepared, signed, and stamped by a civil or structural engineer currently registered in the State of California.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Fill
 - 1. Unless determined to be unsuitable by the Engineer, soils and earth materials obtained from required excavations or soils and earth materials from approved borrow sites may be used for fill.
 - 2. Fill materials shall be naturally occurring, well-graded soil or soil-rock combinations, free of wood, trash, construction debris, and organic, contaminated, or deleterious material. Fill material shall have at least 10 percent material passing the No. 200 sieve.
 - 3. Fill shall be free from unbroken masses of earthy materials that might arch or bridge and leave unfilled pockets.

4. Particle-Size Limitations

- a. The maximum particle size shall be 6 inches. Materials that are in excess of 6 inches in size may be placed in fill only with the approval of and under the direction of the Engineer. Less than 15 percent of the fill particles should be larger than 1-inch in maximum dimension.

5. Imported fill and materials shall be tested, certified, and approved before its transportation to, and use on site.

B. Select fill shall be natural or processed material that is hard, durable, and free of organic matter, loam, and other deleterious substances. Select fill shall have the following:

1. A gradation in accordance with the following:

U.S. Standard <u>Sieve Size</u>	Percentage Passing <u>by weight</u>
3/4-inch	100
No. 4	78-100
No. 16	56-100
No. 30	10-52
No. 50	0-30

C. Crushed aggregate base shall meet the requirements for Caltrans Class 2 aggregate base. Where approved by the Engineer, sand may be substituted for rock dust.

D. Crushed miscellaneous base shall be in accordance with SSPWC Section 200-2.4 fine gradation.

E. Permeable material shall be in accordance with Caltrans Standard Specifications, Section 68-1.025, Class 2 Grading.

F. Crushed rock shall be 3/4-inch in gradation in accordance with SSPWC Section 200-1.1 and Section 200-1.2 unless otherwise shown on the drawings or directed by the Engineer.

G. Pea gravel shall be primary aggregate size No. 4, in accordance with SSPWC Section 200-1.4.

H. Rip-rap.

- 1. Rock for rip-rap courses shall be as shown on the drawings in accordance with SSPWC Section 200-1.6.

I.

2.02 EROSION-CONTROL MATTING

A. Erosion-control matting shall be Rolanka BioD-MAT 70 or approved equal with 4 meter roll width.

B. Erosion-control mat stakes shall be 1-inch by 2-inch by 1 foot pine grade stakes.

PART 3 EXECUTION

3.01 PREPARATION

A. Underground Utilities and Substructures

- 1. Utilities and substructures within the work areas shall be located prior to sitework and identified with aboveground markers over their locations.
- 2. Underground Service Alert (Telephone: 1-800-422-4133) shall be given 2 working days, minimum, advance notification of excavation.
- 3. Utilities and substructures that are encountered in work areas and that are not shown on the drawings shall be reported to the Engineer immediately.
- 4. Where unidentified existing utilities are encountered and determined to be abandoned, only the interfering portions shall be removed. Work shall not be performed on an active utility without obtaining prior approval of the Engineer and the utility owner. The Contractor shall not proceed without instructions, except to correct an immediate hazard or emergency condition. Work performed by the Contractor in the absence of written instructions will be entirely at Contractor's own risk.

B. Subsurface physical conditions or unknown physical conditions that are unusual in nature shall be reported to the Engineer immediately and confirmed in writing.

C. Regulatory Requirements

- 1. The amount of dust raised during earthwork shall not exceed the limitations of the Bay Area Air Quality Management District.

3.02 PROTECTION, SHEETING, SHORING, BRACING, AND EXCAVATION SLOPES

- A. Loose material that appears dangerous to workers or to new or existing facilities shall be removed as a part of the excavation work. An increase in the size of the excavation as a result of this removal shall not relieve the Contractor from the necessity of making the removal.
- B. All temporary support of excavation systems shall be designed and installed to allow for their removal without causing damage to adjacent structures, facilities, pipelines, or improvements. Methods utilized to install and remove support of excavation systems shall induce minimal or no ground vibrations to existing and newly-constructed features, and adjacent ground. Dynamic methods for support of excavation installation and its removal, including pile driving and vibratory removal, are prohibited.

3.03 WATER CONTROL

- A. When encountered, subsurface and surface water flow into excavations shall be controlled in accordance with Section 02140.
- B. The Owner has prepared a Storm Water Pollution Prevention Plan (SWPPP) for this project. The Contractor shall be responsible for implementing the SWPPP.
- C. Surface, storm, and construction water, including water emanating from utilities and structure, shall be controlled and disposed of in accordance with the approved SWPPP and Section 01060.
- D. Control and disposal of water shall prevent erosion and maintain the stability of fills, excavation, grading work, and adjoining utilities, structures, facilities, and land areas.
- E. Water from the construction site and drainage from areas used or occupied by the Contractor shall be disposed of in accordance with the approved SWPPP. The Contractor shall ensure that storm or drainage water reaching the construction area will not cause damage. The Contractor shall be responsible for personal injury or damage to property on or off SFWCA's land due to:
 - 1. Uncontrolled storm or drainage water
 - 2. Interruption or diversion of water because of Contractor's operations
- F. Subject to the Engineer's approval, a temporary disposal basin may be constructed and storm, rain, surface, subsurface, and construction water conveyed to it by ditch-draining, pumping, or other approved means. Water from the basin may be used for the moisture-conditioning of fill material to be used for earthwork or for other moistening operations. The basin shall be completely removed and the affected ground surfaces returned to their original condition on completion of the work. The development, use, and removal of a temporary disposal basin shall be consistent with the approved SWPPP.

3.04 EROSION CONTROL

- A. Exposed areas of construction shall be protected from erosion by wind and water in accordance with Sections 01060 and 01070 until stabilization is achieved or the project is complete, or as directed by the Engineer.
- B. Where necessary because of the terrain, erosion-control matting shall be provided.
- C. Erosion-control measures shall not be removed without the approval of the Engineer.
- D. Silt and debris shall be removed from check berms, basins, or other drainage-control features after each rainstorm until the project is complete.
- E. Precautionary measures shall be provided to prevent erosion of completed, graded areas.

3.05 EQUIPMENT

- A. Compaction Equipment
 - 1. The type of compaction equipment, including hand-operated equipment, shall be sheepsfoot compactor suitable for the type of soil being compacted and shall be adequate to obtain the percent compaction specified with the method employed.
 - 2. Equipment for finishing topsoil placement shall be an imprinting machine roller meeting the following criteria:
 - a. Imprint geometric shape: V-shaped trough.
 - b. Imprint top shape: Rectangular almost square.
 - c. Imprint top area: About one square foot.
 - d. Imprint length: 10 inches.
 - e. Imprint top width: 6 to 12 inches.
 - f. Imprint end spacing: 2 to 3 inches.

- g. Imprint side top spacing: 2 to 3 inches.
 - h. Imprint depth: 4 to 7 inches.
 - i. Imprint pattern: staggered (Fig. 5, Dixon & Carr 2000 *Land Imprinting Specifications for Ecological Restoration and Sustainable Agriculture*, Proc. Conference 31, International Erosion.).
 - j. Imprinter teeth: Ten-inch lengths square cut from 6"x6" or 8"x8" steel angle.
 - k. Imprinting roller length: 3 feet up to a 10-foot maximum in one-foot increments.
 - l. Roller core diameter: 20-inch minimum.
 - m. Imprinting pressure: Adjustable from 15 to 30 pounds per square inch (psi).
 - n. Imprinter weight: 500 pounds minimum per foot of imprinting roller length.
 - o. Imprinter ballast: 500 pounds minimum per foot of imprinting roller length
 - 3. Crushed rock and pea gravel shall be compacted with vibratory compactors, as approved by the Engineer.
 - 4. Equipment for placement and compaction shall be maintained in good condition at all times to ensure that the results obtained are uniform and the maximum obtainable for the specified equipment.
- B. Moisture-Control Equipment
- 1. The type and quality of equipment for applying water shall be adequate for the work. It shall not leak, and mobile equipment shall be equipped with distributor bars or other approved devices to ensure uniform application.
 - 2. Water-supply trucks shall be equipped with meters, gauges, or other devices to measure the quantity of water dispensed.

3.06 CLEARING, GRUBBING, AND STRIPPING

- A. Clearing, grubbing, and stripping shall be in accordance with Section 02110. Clearing, grubbing, and stripping shall be completed as a separate item of work before beginning the excavation, stockpiling, or fill operations. The Contractor shall obtain from the Engineer specific approval of the completed cleared areas before starting the subsequent earthwork items.

3.07 EXCAVATION

A. Exploratory Excavation

- 1. The Contractor shall excavate and expose buried connections to existing utilities, and crossings of existing utilities where indicated on the drawings. The Contractor shall use caution during excavation. Excavation shall be performed prior to the preparation of shop drawings for connections and before fabrication of pipe, and the data obtained shall be used in preparing shop drawings.
- 2. Data, including dates, locations excavated, and sketches, shall be submitted to Engineer within one week of excavation. The data shall be sufficient to determine the horizontal and vertical locations of the points of connections as well as the slope of existing utilities adjoining the point of connection.
- 3. Damage to utilities from excavation activities shall be immediately reported to the Engineer and repaired by Contractor.

- B. Whenever excavated materials are to be used directly in fill or are stockpiled for later use in fill, the excavation and stockpiling shall be performed using equipment and procedures selected to minimize the effects of natural stratification and variations in material and to optimize conditioning of materials for compaction. Temporary stockpiles shall not exceed 3.5 feet in height above the existing stripped surface.

- C. Excavations and overexcavations called out on the drawings shall be accurately made to the lines, grades, elevations, and cross sections shown on the drawings. The bottom of excavations shall be undisturbed soil.

- 1. Overexcavation of trenches or structure foundations will not be permitted, except as specified, shown on the drawings, or directed by the Engineer. Any unauthorized overexcavation carried below the grade or elevation specified, indicated on the drawings, or directed by the Engineer shall be backfilled and compacted as specified to the required grade with the indicated or other material as directed by the Engineer at no additional cost. The Contractor shall also avoid unnecessary disturbance of adjacent ground.
- 2. Pipe Trenches
 - a. Trenches and excavations for pipe installation shall be excavated per details shown on the drawings and with adequate allowance for bedding.
 - b. Where the bottom of a trench excavation is found to consist of soft or unstable material, which is incapable of properly supporting the pipe, such material shall be excavated to a depth and for length required, as determined

by the Engineer to expose competent material. The trench shall be refilled to the required grade with local marsh material or as directed the Engineer, and compacted as specified.

- c. For gravity lines, excavation and pipe installations shall start at the downhill point of connection and proceed uphill.
 - d. Excavation for piping and utility lines shall be open-cut trenches with vertical sides unless otherwise shown on the drawings. In locations where space permits, sloping trench excavations may be used with the approval of the Engineer.
3. Whenever overexcavation, inaccurate trimming, or other activities result in a trench bottom which fails to provide uniform support for pipe, conduits, ducts, or other similar facility, the Contractor shall:
- a. Remove pipe, conduits, or ducts that are placed.
 - b. Refill to the required grade with approved compacted material.
 - c. Retrim the trench to the required section and grade.
4. Obstructions within the limits of required excavations, such as boulders, tree stumps, abandoned pipes and structures, and debris of all types shall be removed as part of excavation work.
- D. Excavation adjacent to existing pipelines, structures, or other features shall be extended evenly on all sides of the feature, unless otherwise approved by the Engineer.
- E. Cut Slopes
1. Cut slopes that remain as visible features of the completed work shall be trimmed to the lines and grades shown on the drawings as the excavation advances.
 2. Debris and disturbed, loose material shall be removed.
 3. When completed, the average plane of cut slopes shall conform to the slopes shown on the drawings, and no point shall be above or vary more than 6 inches below elevations shown on the drawings, measured normal to the slope.
 4. At no time shall cut slopes be overexcavated or disturbed by over ripping. Overexcavated or over ripped areas shall be repaired to the satisfaction of the Engineer.
 5. The surface of bare cut slopes shall be maintained in a stable condition and shall be protected from erosion until completion of the project.
- F. Suitable excavated materials may be stockpiled in the Contractor's designated areas. Unacceptable materials shall be removed from the project site and properly disposed.

3.08 PLACEMENT AND COMPACTION OF FILL

- A. The operations of material conditioning, filling, and compaction shall be systematic. Methods that are not conducive to achieving the required percent compaction shall be changed immediately, as directed by the Engineer.
- B. Prior to placement of the habitat berms, the top 0.5-1 foot of material will be excavated from the existing channels within the footprint of the habitat berms. This material is unsuitable for placement as fill, and should be spread uniformly over the finish grade of the marsh ponds.
- C. Prior to placement of fill, the existing ground surface shall be stripped in accordance with Section 02110, and scarified to a depth of at least 8" prior to placement of fill. The scarified soil should be moisture conditioned to at least optimum moisture content and compacted. Material Placement and Moisture Conditioning
 1. Fill materials that are to be compacted shall be placed in horizontal layers 12 inches thick, maximum, measured before compaction, unless otherwise specified.
 2. Aggregate base and the crossing levee fill shall be placed in horizontal layers 8 inches thick, maximum, measured before compaction.
 3. Each layer shall be spread evenly over the entire area and shall be thoroughly mixed during the spreading to obtain uniformity of material and moisture in each layer.
 4. Moisture conditioning should be performed prior to compaction. Most of the material excavated from the channel will be significantly wet of optimum moisture content. The contractor should be prepared to aerate each lift of fill and allow for drying time prior to compaction. A disc should be considered for use in breaking up and drying the weak materials. Fill shall be compacted to at least optimum moisture content.
 5. Non-conforming materials requiring significant moisture conditioning shall be removed from the fill area and processed as necessary.

6. After compaction and as determined by the Engineer, each layer shall be sufficiently scarified to a depth of at least 8 inches to provide a bond with the next layer.

D. Filling Against Abutting Slopes or Inclined Surfaces

1. Existing surfaces that are inclined at 5:1, horizontal to vertical, or steeper shall be horizontally benched when new fill is to be constructed against them.
2. Existing surfaces shall be cleared, grubbed, and stripped in accordance with Section 02110 before being benched. The horizontal bench width into the existing slope shall not exceed 5 feet.
3. Fill shall be placed on horizontal surfaces.

E. Foundation Protection

1. The first layer of fill shall be placed promptly after the foundation is approved by the Engineer.
2. Where deterioration of the foundation occurs before the material of the first layer is applied, additional excavation, foundation preparation, and cleanup shall be performed as required.

F. Condition of Fill

1. The fill throughout the cross section shall be free of lenses, pockets, streaks, and layers of material differing substantially in texture or gradation from the surrounding fill.
2. The condition of fill materials shall be maintained so that the surfaces will readily drain at all times.
3. Materials that become soft, unstable, yielding, or exhibit pumping shall be removed.
4. Ruts in the surface of a layer of fill shall be filled and leveled satisfactorily before compaction.
5. Fill material shall be removed as necessary where gradation, expansion index, sand equivalent, placement, moisture content, or compaction of the fill materials does not fully comply with these specifications. Unsatisfactory material shall be removed promptly and replaced with material that is in accordance with these specifications, or upon approval of the Engineer, it shall be blended, disced, moistened, recompacted, or otherwise reworked as specified to achieve compliance.

G. Compaction Methodology

1. After being placed, mixed, and spread evenly, each layer of fill shall be thoroughly compacted to the specified percent compaction.
2. A sheepsfoot compactor or equivalent shall be used for compaction.
3. Compaction shall be methodical and continuous over the entire area.

H. Surfaces that are ruptured or uneven after compaction shall be repaired and re-leveled before the next layer of material is placed. However, where the compacted surface of any layer of material is too smooth or too dry to bond properly with the succeeding layer, the Engineer may direct that it shall be scarified to no less than 3 inches nor more than 5 inches in depth and conditioned prior to the placing of the next layer.

I. Fill Adjacent to Pipes and Structures

1. Appropriate precautions shall be taken when backfilling within 2 feet of pipelines or within 5 feet of walls or structures to avoid creating or imposing loads which could damage the pipelines, walls, or structures, or which could cause the settlement or lateral movement of the pipeline, walls, or structures.
2. Fill shall not be dropped directly upon pipes, structures, or conduits. At these locations, heavy compaction equipment shall not be used, and backfill shall be placed in layers 4 inches thick, maximum.
3. Each layer shall be thoroughly compacted with hand-operated, power-driven tampers.
4. Fill shall be brought up evenly on all sides of the feature being backfilled.
5. Care shall be exercised to prevent damage to coating or membrane systems. The Contractor shall repair damage.

J. Slope Construction

1. Compacted fill shall be overbuilt sufficiently to permit trimming to the design lines in fully compacted material.
2. Fill slopes shall be constructed simultaneously with the embankment fill or general fill area.
3. No point on the completed slope shall vary from the designated plane by more than 6 inches, measured normal to the slope face.
4. The surface of the bare fill slope shall be maintained in a stable condition and shall be protected from erosion until completion of the project.

- K. Fill materials shall be placed in lanes parallel to the fill axis to allow for surface drainage. The top of fill shall be maintained horizontal until final grade is achieved. However, a 3 percent cross slope may be maintained for drainage purposes.
- L. When rain or impending rain stops work on a section of fill, the surface shall be smoothed and sealed with drum or wheeled rollers to facilitate drainage. Before resuming work in this area and placing the next layer, the surface shall be scarified and moisture-conditioned as directed by the Engineer.
- M. Unless otherwise directed by the Engineer, the finished grade surface of completed fill shall be evenly trimmed and then rolled with drum or wheeled rollers to provide a tight surface.
- N. Abrupt transitions of grade in the foundation upon which fill material is to be placed shall be trimmed or filled, as applicable, to provide a smooth, regular surface. Abrupt transitions of grade shall be avoided when placing fill.
- O. Trenches in Fill
 - 1. Whenever piping, plumbing, culverts, or other utilities are to be installed in fill, the elevation of the top of the compacted fill shall be constructed a minimum of 2 feet above the top of the included feature, and the appropriate trench shall be excavated for the installation.

P. Compaction Requirements

- 1. Unless otherwise specified, fill shall be compacted to a percent compaction of 85 percent, minimum. The stripped and scarified surface shall be compacted to at least 85 percent relative compaction prior to fill placement.
- 2. Fill in the cross levee shall be compacted to a percent compaction of 90 percent, minimum. The stripped and scarified surface shall be compacted to at least 90 percent relative compaction prior to fill placement.
- 3. The 85 percent compaction requirement of these specifications shall be considered satisfied when all density tests yield dry densities that are equal to or greater than 85 percent of the laboratory maximum dry density.
- 4. The 90 percent compaction requirement of these specifications shall be considered satisfied when all density tests yield dry densities that are equal to or greater than 90 percent of the laboratory maximum dry density.
- 5. The 95 percent compaction requirement of these specifications shall be considered satisfied when both of the following are met:
 - a. At least 17 of any 20 consecutive density tests in a zone yield dry densities that are equal to or greater than 95 percent of the laboratory maximum dry density.
 - b. No density test yields a dry density less than 93 percent of the laboratory maximum dry density.

3.9 PLACEMENT AND COMPACTION OF SPECIAL FILL MATERIALS

- A. Details of special fill shall be as shown on the drawings or as approved by the Engineer.
- B. Special fill materials shall be placed and compacted in accordance with the density requirements for fill in this section.
- C. Pea gravel and rock refill shall be placed in layers of 1 foot, maximum. Vibratory compaction shall continue until there is no further vertical displacement.
- D. Joint holes for pipeline construction shall be filled with sand backfill and sand bedding material compacted in accordance with the requirements for fill.

3.10 PLACING TOPSOIL

- A. Topsoil shall be placed over finished grading within 10 days of completing the finished grading, unless the area is still active.
- B. Topsoil shall be placed in accordance with Section 02950.
- C. Topsoil shall be placed in 6"-12" lifts. Topsoil on the North and South habitat berms shall be imprinted with a roller after seeding.

3.11 DISPOSAL OF UNSUITABLE AND EXCESS SUITABLE MATERIALS

- A. Unsuitable excavated materials, oversized materials, rubble, broken asphalt concrete, broken concrete, waste derived from earthwork, and other construction debris shall be removed from the site and properly disposed of at an approved location as specified in Section 02010.
- B. When determined by the Engineer that SFWCA can utilize suitable excess excavated materials in areas within the site, the Contractor shall haul and place the materials in the areas designated by the Engineer. The suitable excess material stockpile site shall be cleared, grubbed, and stripped as specified in Section 02110, and the stockpiled material shall be compacted and protected from erosion as specified. Materials shall be spread in layers not exceeding 12 inches in thickness, prior to compaction. A specified percent compaction requirement will not apply. Each layer of material

shall be compacted by a minimum of two passes over the entire area of each layer with the equipment used for spreading. The exterior slope of the stockpile shall be inclined no steeper than 3:1 (horizontal to vertical). The top of the final configured stockpile shall be rolled with drum or wheeled rollers to provide a tight surface and shall have a uniform slope of between 2 percent and 3 percent across the entire stockpile to facilitate drainage.

C. Temporary Storage

1. Materials to be used for earthwork or materials to be disposed of offsite may be temporarily stored in areas of the site assigned for the use of the Contractor.
2. Material shall not be stored on paved areas or roadways.

3.12 SITE TOLERANCES

- A. Grading or subgrading shall be performed to achieve the elevations shown on the drawings with well-compacted, reasonably smooth, and uniform transitions connecting adjacent areas. Final grading of the worksite shall blend with the contours of the adjacent areas and shall be subject to the Engineer's approval. The finished surface shall be within the tolerances outlined in Section 01050.

3.13 FIELD QUALITY CONTROL

- A. Materials shall not be used until tested and approved by the Engineer.

B. Tests

1. The Engineer will observe all excavation, filling, and compaction operations and will perform tests during the progress of the work to determine compliance with these specifications. The Contractor shall cooperate and assist as required in the making of these tests and shall allow a reasonable time for them to be performed. Where the fill surface is disturbed, density tests will be made in the compacted materials below the disturbed zone.
2. Where tests indicate material, moisture, or compaction deficiencies, the Contractor shall recompact or, where necessary, remove the unsuitable material and replace with acceptable material compacted as specified.
3. Gradation testing will be in accordance with ASTM D422.

- C. The laboratory maximum dry density and optimum moisture content will be determined in accordance with ASTM D1557, except that the laboratory maximum dry density for cohesionless, coarse-grained, and free-draining materials will be determined in accordance with the procedure for maximum density detailed in ASTM D4253.

- D. The field in-place dry density for soils and earth materials containing individual particle sizes no greater than 1-1/2 inches in maximum dimension will be determined in accordance with ASTM D1556 using a sand cone or ASTM D 6938 using a nuclear meter.

1. The field in-place dry density for soils and earth materials containing individual maximum particle sizes greater than 1-1/2 inches but no greater than 5 inches in dimension will be determined in accordance with ASTM D4914.
2. The field in-place dry density for soils and earth materials containing individual particle sizes greater than 5 inches in maximum dimension will be determined in accordance with ASTM 5030.

- E. The field in-place dry density and moisture content for soils and earth materials containing oversized particles will be corrected in accordance with the basic procedures of USBR 7205, Section 11, Method B.

- F. For rapid-compaction control, the Engineer will provide the Contractor with field estimates of percent compaction, using a method that yields accurate and consistent results.

3.14 FINAL GRADING

- A. Areas that are not paved shall be graded to the elevations shown on the drawings or if no elevations are shown such areas shall be graded to match surrounding areas.

3.15 CLEANUP

- A. Before acceptance of the work, the Contractor shall clear work areas by removing equipment, barricades, surplus materials, and rubbish. The project site shall be left in a condition acceptable to the Engineer.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 02617

DUAL WALL CORRUGATED HDPE PIPE AND FITTINGS

PART 1 GENERAL

1.01 REFERENCES

A. General

1. The publications listed below form a part of this specification to the extent referenced.
2. Where a date is given for reference standards, the edition of that date shall be used. Where no date is given for reference standards, the latest edition available on the date of the Notice Inviting Bids shall be used.

B. ASTM International (ASTM)

1. ASTM D3350, Standard Specification for Polyethylene Plastics Pipe and Fittings Material
2. ASTM D1238, Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
3. ASTM D4218, Standard Test Method for Determination of Carbon Black Content in Polyethylene Compounds by Muffle-Furnace Technique
4. ASTM D2444, Standard Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup
5. ASTM D2412, Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading
6. ASTM D2321, Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity Flow Applications
7. ASTM D3212, Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
8. ASTM F477, Elastomeric Seals (Gaskets) for Joining Plastic Pipe
9. ASTM F2487, Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Corrugated High Density Polyethylene Pipelines
10. ASTM F1417, Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air
11. ASTM F2648 Standard specification for 2-inch to 60-inch annular corrugated profile wall polyethylene pipe and fittings for land drainage applications.

C. American Association of State Highway and Transportation Officials (AASHTO)

1. AASHTO Section 30, Construction Standard for Thermoplastic Pipe

D. Standard Specifications for Public Works Construction (SSPWC)

1.02 SUBMITTALS

- A. Drawings: Drawings showing pipe layout, coupling piece marks, match marks, and related information shall be submitted.
- B. Test Reports and Certifications: Verifications that all corrugated pipe provided is in accordance with the requirements of this section shall be submitted.

PART 2 PRODUCTS

2.01 MATERIALS

A. Pipe and Couplings

1. Pipe shall be dual wall corrugated HDPE pipe manufactured in accordance with ASTM F2648.
2. Pipe and fittings shall be made out of high-density polyethylene resin that meets or exceeds the requirements of ASTM D3350.
3. Pipe shall contain a minimum of 2% Carbon Black content per ASTM D3350.

4. Fittings shall be in accordance with AASHTO M252, AASHTO M294, ASTM F2306, and ASTM F2648.
 5. Fittings shall be watertight in accordance with ASTM D3212.
 6. Diameter of pipe shall be as shown on the drawings
 7. Pipes or couplings that are required to be assembled in a unique manner shall be permanently match-marked and piece-marked for field assembly.
- B. Bedding and backfill materials used under the pipe, around the pipe, and within one foot above the pipe shall be native excavated fill and backfill material in accordance with Section 02200.

3.01 TRENCHING AND BACKFILL

- A. Trenching, bedding, and backfill shall be in accordance with Section 02200, and as specified herein.
1. Pipe trenches shall be over-excavated a minimum of 3 inches and backfilled with native excavated material.
 2. Compaction of bedding material shall be controlled to limit compaction to 80 to 85 percent relative compaction.
 3. Backfill shall be carefully placed and worked around and under the pipe and compacted by mechanical means to a minimum of 95 percent relative compaction.

3.02 PIPE HANDLING AND INSTALLATION

- A. Pipe and fittings shall be shipped, handled, and installed in such a manner as to prevent bruising, scaling, or breaking of the surface or protective coatings.
- B. Pipe shall not be rolled or dragged over gravel, rock, or other sharp or abrasive surfaces, and shall be prevented from striking rock or other hard objects during placing.
- C. Protective coatings shall be inspected and damages repaired just prior to lowering the pipe into the trench.
- D. Pipe laying and installation shall be in accordance with the manufacturer's written instructions, ASTM D2321, SSPWC Sections 306-1.2.2 and 306-1.2.7, and as specified herein
- E. Each length of pipe shall be placed in the trench, adjusted to grade, and then adjusted longitudinally and circumferentially so that coupling bands with projections or corrugations will properly engage the corrugations on both lengths of pipe.
1. Special fittings shall be laid so as to align the match marks and then checked and adjusted so the piping will properly align with structures or other end points.
 2. Gaskets and couplers shall be placed over the pipe after the pipe is set and adjusted to grade and position. Coupling bolts shall be brought up evenly and then firmly tightened.

END OF SECTION

SECTION 02950 PLANTING

PART 1 GENERAL

1.01 REFERENCES

A. General

1. The publications listed below form a part of this specification to the extent referenced.
2. Where a date is given for reference standards, the edition of that date shall be used. Where no date is given for reference standards, the latest edition available on the date of Notice Inviting Bids shall be used.

B. American Association of Nurserymen, Inc. (AAN)

1. AAN American Standard for Nursery Stock

C. American Joint Committee on Horticulture Nomenclature (AJCHN)

1. AJCHN Standardized Plant Names

1.02 SUBMITTALS

A. Product Data: The following product data shall be submitted:

1. Application and installation instructions for seed materials.

B. Material Samples: The following samples shall be submitted:

1. Seed (1.0) lb.
2. Certificates of Compliance
 - a. A certificate of compliance with each delivery or bulk material delivery, stating the source, quantity, and type of material. Written certificates providing the manufacturer's analysis shall be submitted at the time of each delivery for the following:
 - (1) Grass seeds or grass-seed mixtures
3. Certificates of Inspection: Certificates of inspection shall accompany each shipment confirming that the shipment is in accordance with federal, state, and county laws that require inspection for plant diseases and infestations of insects.

C. Clearance: Clearance from the county agricultural commissioner before plants are delivered from outside the county.

D. Schedules: The following schedules shall be submitted:

1. A planting schedule, at least 20 calendar days before the start of planting, indicating the dates for the start and completion of the following operations:
 - a. Planting grasses

1.03 DEFINITIONS

- A. Caliper—The thickness of the trunk, taken either 12 inches above the finish grade or ground, or where a dimension in the trunk appears to form the head of the tree.
- B. Condition—The factor controlled by vitality and the ability to survive, thrive, and be comparable with normal plants of the same species and variety in the vicinity and at the same season of the year. Condition may also refer to the state of growth, whether “dormant condition” or “growing condition.” This state shall be comparable to plants of the same species for formation of buds, leaves, and the like.
- C. Height—Height is measured with a tolerance where the smaller dimension is the minimum acceptable and the larger dimension is the maximum permissible.
- D. Plants or Plant Materials—The terms refer to all vegetation, whether trees, shrubs, ground cover, or herbaceous vegetation.

- E. Quality—Quality refers to structure and form, as evidenced by density and number of canes and branches, compactness, symmetry, and general development without consideration of size or condition. Standard quality indicates the minimum acceptable quality.
- F. Satisfactory Stand—Refers to grass or section of grass measuring 10,000 square feet or larger, with no bare spots larger than 3 square feet, no more than 10 percent of the total area with bare spots larger than 1 square foot, and no more than 15 percent of the total area with bare spots larger than 6 inches square.
- G. Size—The factor controlled by dimensions representing height or spread, or both, without consideration of quality or condition. For standard quality, a dimension is given for height, container size, or both.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Delivery

- 1. Covering: During shipment, seed shall be protected with tarpaulins or other suitable covering to prevent excessive drying by the sun and wind.
- 2. Labels: Seed bags shall be delivered with durable waterproof labels, securely attached before delivery to the site.

B. Seed Storage and Protection

- 1. Seeds that are not installed on the day of arrival at the site shall be stored and protected from wind and direct sunlight, and moisture.

C. Handling

- 1. Care shall be taken to damaging seeds. Seed materials shall not be dropped from vehicles.

1.05 WARRANTY (NOT USED)

PART 2 PRODUCTS

2.01 TOPSOIL

- 1. Topsoil shall be obtained from approved stockpiles on site.

2.01 FERTILIZER AND ADDITIVES (NOT USED)

2.02 MATERIALS (NOT USED)

2.03 PLANTS (NOT USED)

2.04 GRASS MATERIALS

B. Grass Seed

- 1. Seed shall be certified, blue-tag, clean, and shall be delivered in original unopened packages bearing an analysis of the contents. The purity and minimum germination rate shall be as shown on the drawings.
- 2. Seed shall be in accordance with the regulations of authorities having jurisdiction.
- 3. A known source for seed are: S&S Seed (Carpinteria, CA), Hedgerow Farms (Winters, CA) and Granite Seed (Lehi, UT)

PART 3 EXECUTION

3.01 PREPARATION

A. Protection

- 1. Landscape work shall not begin until the construction work adjacent to the seeding areas has been completed.

- B. Planting operations shall be conducted under favorable weather conditions, as determined by the Engineer.

3.02 SEED AREAS

- A. Finish Grading for Seed Areas: Finish grading for seed areas shall not begin until the finish grading has been completed, the soil has been lightly compacted, the soil moisture content is adequate. The area shall be graded to

provide a finished grade that is smooth, even, uniform, and with no abrupt changes in the surface. Seed shall be applied prior to imprinting.

B. Spreading of Topsoil

1. Topsoil and textural soil amendments shall be spread over the prepared subsoil by a rubber-tired tractor with grader blade or equivalent and weighing not more than 3.5 tons, or shall be spread by hand in small areas.
2. The topsoil area shall be raked to a uniform grade consistent with the elevations shown on the drawings.
3. A cultipacker shall be used to lightly compact the area before planting grass.
4. The finish grade of lawn areas shall be 1 inch below the grade of adjacent pavement walks, curbs, or headers, unless advised otherwise by the Engineer. Lawn areas shall be rolled with a 300-pound roller to provide a uniformly compacted and even surface.

3.03 PLANTING (NOT USED)

3.04 PLANTING SEED

A. General: Seed shall be applied mechanically with range-drill or air-drill equipment.

B. Mechanical Seeding

1. Mechanical Seeding: Grass seed shall be planted at the rate specified on the drawings using a mechanical spreader.

3.05 FINISHING (NOT USED)

3.06 LANDSCAPE MAINTENANCE

A. Cleaning: Seeding areas shall be maintained free of debris at the end of installation.

3.07 FIELD QUALITY CONTROL

A. Inspections

1. General: Inspections will be made by the Engineer. When requesting on-site inspection, the Engineer shall be notified at least 2 working days in advance.
2. On-site inspections shall be scheduled as follows:
 - a. Pre-job conference.
 - b. At completion of finish grading.
 - c. At delivery of seed materials.
 - d. After seeding operations.
 - e. After imprinting has been completed.

B. Final Acceptance: Within 20 days of the end of the Installation, the Contractor shall notify the Engineer for a final inspection. An inspection will be arranged within 15 days of this date. A Notice of Completion may be given when the terms of plant warranty have been fulfilled and the condition of the project site is as required by these specifications.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 02952
EROSION CONTROL - POST CONSTRUCTION BMPs

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. All post-construction Best Management Practices (BMPs) indicated herein shall be kept effective and maintained by the Contractor throughout until final acceptance of all work in the contract.

1.02 SUBMITTALS

- A. Prior to delivery to the site, the Contractor shall submit samples and manufacturers' literature for the following items:
 - 1. Straw Wattles

PART 2 PRODUCTS

2.01 MATERIALS

- A. Straw Wattles: Straw Wattles shall be installed at locations noted on plans at the hinge point of the new berm and existing roads.
 - 1. Straw Wattles shall be 8.5 inch diameter rice straw wrapped in burlap and certified weed-free by the Department of Agriculture.
 - 2. Manufacturers: Earthsaver Erosion Control Products, Woodland, CA. or approved equal.
- B. Erosion-Control matting shall be in accordance with Section 02200.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Installation of straw wattles shall be in accordance with the manufacturer's written instructions.

3.02 MAINTENANCE

- A. During the entire period of installation and until final acceptance of all work by the Engineer, the Contractor shall maintain all straw wattles in working conditions, including installation of replacement wattles or stakes at the frequencies as recommended by the manufacturer and when necessary if damaged.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 06100 ROUGH CARPENTRY

PART 1 GENERAL

1.01 REFERENCES

A. General

1. The publications listed below form a part of this specification to the extent referenced.
2. Where a date is given for reference standards, that edition shall be used. Where no date is given for reference standards, the latest edition available on the date of the Notice Inviting Bids shall be used.

B. ASTM International (ASTM)

1. ASTM A153, Zinc-Coating (Hot-Dip) of Iron and Steel Hardware
2. ASTM A307, Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength
3. ASTM A563, Specification for Carbon and Alloy Steel Nuts

C. American Society of Mechanical Engineers (ASME)

1. ASME B18.2.1, Square and Hex Bolts and Screws Inch Series
2. ASME B18.6.1, Wood Screws (Inch Series)

D. American Wood Preserver's Association (AWPA)

1. AWPA C2, Lumber, Timbers, Bridge Ties and Mine Ties, Pressure Treatment
2. AWPA C9, Plywood, Pressure Treatment

E. Council of American Building Officials (CABO)

1. CABO NER-272, Pneumatic or Mechanically Driven Staples, Nails, P-Nails and Allied Fasteners for Use in All Types of Building Construction

F. Federal Specifications (FS)

1. FS FF-N-105B(3), Nails, Brads, Staples and Spikes: Wire, Cut and Wrought

G. West Coast Lumber Inspection Bureau (WCLIB)

1. Standard No. 17, Grading Rules for West Coast Lumber

H. Western Wood Products Association (WWPA)

1. Western Lumber Grading Rules
 - a. U.S. Department of Commerce, National Institute of Standards and Technology
2. DOC PS 1, U.S. Product Standard for Construction and Industrial Plywood
3. DOC PS 20, "American Softwood Lumber Standard"

1.02 DEFINITIONS

- A. Rough Carpentry: Carpentry work not specified in other sections and not exposed, unless otherwise specified.

1.03 SUBMITTALS

A. Product data:

1. Plywood
2. Metal framing anchors.

- B. Material certificates for dimension lumber specified. Indicate species and grade selected for each use and design values approved by the American Lumber Standards Committee's (ALSC) Board of Review.

- C. Wood treatment data as follows, including chemical treatment manufacturer's instructions for handling, storing, installing, and finishing treated materials:
 - 1. For each type of preservative-treated wood product, include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.
 - 2. For waterborne-treated products, include statement that moisture content of treated materials was reduced to levels indicated before shipment to Project site.
- D. Warranty of chemical treatment manufacturer for each type of treatment.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Immediately upon delivery to jobsite, place materials in area protected from weather. Do not store seasoned materials in wet or damp areas.
- B. Protect sheet materials from breaking corners and damaging surfaces while unloading.
- C. Store materials a minimum of 6 inches above ground on framework or blocking and cover with waterproof covering, providing for adequate air circulation and ventilation. Store sheet materials flat, not on edge.
- D. Protect fire-retardant materials against high humidity and moisture during storage and erection.
- E. For pressure treated lumber and plywood, place spacers between each bundle to provide air circulation.

PART 2 PRODUCTS

2.01 LUMBER, GENERAL

- A. Lumber Standards: Comply with DOC PS 20, "American Softwood Lumber Standard," and with applicable grading rules of inspection agencies certified by ALSC's Board of Review.
- B. Grade Stamps: Provide lumber with each piece factory marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
- C. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 - 1. Provide dressed lumber, S4S, unless otherwise indicated.
 - 2. Provide lumber with 15 percent maximum moisture content at time of dressing for 2-inches nominal thickness or less, unless otherwise indicated.

2.02 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. General: Where lumber or plywood is indicated as preservative treated or is specified to be treated, comply with applicable requirements of AWWA C2 (lumber) and AWWA C9 (plywood). Mark each treated item with the Quality Mark Requirements of an inspection agency approved by ALSC's Board of Review.
 - 1. Do not use chemicals containing chromium or arsenic.
- B. Pressure treat aboveground items with waterborne preservatives to a minimum retention of 0.25lb/cu. ft. After treatment, kiln-dry lumber and plywood to a maximum moisture content of 19 and 15 percent, respectively. Treat indicated items and the following:
 - 1. Wood cants, nailers, curbs, blocking, stripping, and similar members in connection with roofing, flashing, and waterproofing.
 - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.

2.03 MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction, including cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members.
- B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown.
- C. Moisture Content: 15 percent maximum for lumber items not specified to receive wood preservative treatment.

- D. Grade: For dimension lumber sizes, provide No. 3 or Standard grade lumber per ALSC's NGRs of any species. For board-size lumber, provide No. 3 Common grade per WWPA; or Standard grade per WCLIB or WWPA of any species.

2.04 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
1. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A153 or of Type 304 stainless steel.
- B. Nails, Wire, Brads, and Staples: FS FF-N-105.
- C. Power-Driven Fasteners: CABO NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Lag Bolts: ASME B18.2.1.
- F. Bolts: Steel bolts complying with ASTM A307, Grade A with ASTM A563 hex nuts and, where indicated, flat washers.

PART 3 EXECUTION

3.01 INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of rough carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.
- B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted.
- C. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.
- D. Apply field treatment complying with AWPA M4 to cut surfaces of preservative-treated lumber and plywood.
- E. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
1. CABO NER-272 for power-driven staples, P-nails, and allied fasteners.
 2. Published requirements of metal framing anchor manufacturer.
 3. "Recommended Nailing Schedule" of referenced framing standard and with APA's "National Design Specifications for Wood Construction."
 4. "Table 23-I-Q—Nailing Schedule" of the Uniform Building Code.
- F. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; predrill as required.

3.02 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

- A. Install wood grounds, nailers, blocking, and sleepers where shown and where required for screeding or attaching other work. Form to shapes shown and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK